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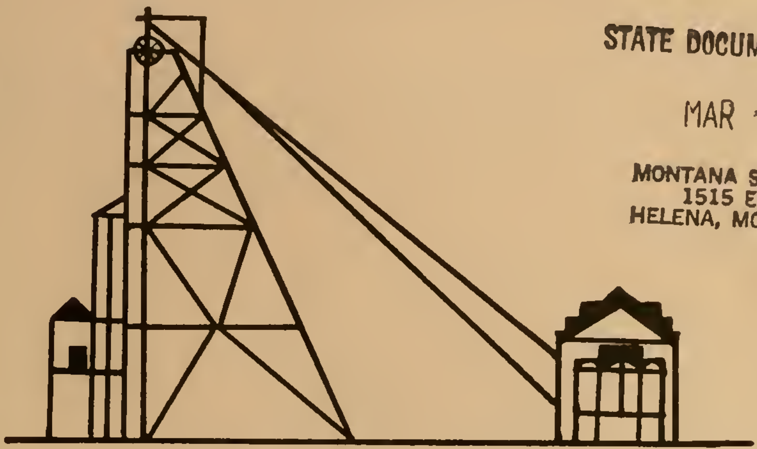

CULTURAL RESOURCE INVENTORY AND EVALUATION

of the

Mack/Nygard, Larsen/Hubbs, Ayars/Jackson/Hoppe/Alcott/Gussenhoven/Wieck Complex, Havre Coal Mining Company, Milk River/Perkins, Cummings, Burns and Rader/Dehl/Radekop Mines in the Big Sandy and Milk River Coal Fields of Montana

for

THE MONTANA DEPARTMENT OF STATE LANDS
1625 - 11th Avenue
Helena, Montana 59601

by

Paul Anderson

GCM SERVICES INC.
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March, 1984

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INTRODUCTION

In November of 1983 GCM Services, Inc. in Butte, Montana was contracted by the Montana Department of State Lands (DSL) to perform a cultural resource inventory and evaluation of selected abandoned coal and hardrock mines in Montana.

This report presents the results of the inventory of abandoned coal mines in Chouteau, Hill and Blaine counties (Figure 1).

In the interest of public safety and health the DSL, as part of its abandoned mines project, plans to close all open adits, remove remaining structures and reclaim disturbed areas at the mines through removal, contouring and/or re-vegetation.

The following report describes the physical setting, the historic background and the present state of the Mack/Nygard, Larsen/Hubbs, Ayars/Jackson/Hoppe/Alcott/Gussenhoven/Wieck Complex, Havre Coal Mining Company, Milk River/Perkins, Cummings, Burns and Rader/Dehl/Radekop Mines in the Big Sandy and Milk River Coal Fields in Montana. An evaluation of sites eligible for the National Register of Historic Places and a summary of projected impact on the sites is given.

Official site inventory forms are on file in the state site files at the University of Montana and are reproduced in Appendix I.

Field investigations were conducted in November of 1983. The principal investigator is Paul Anderson.

All field notes, photographs and supportive information resulting from the cultural resource fieldwork will be maintained at the office of GCM Services, Inc., Butte, Montana.

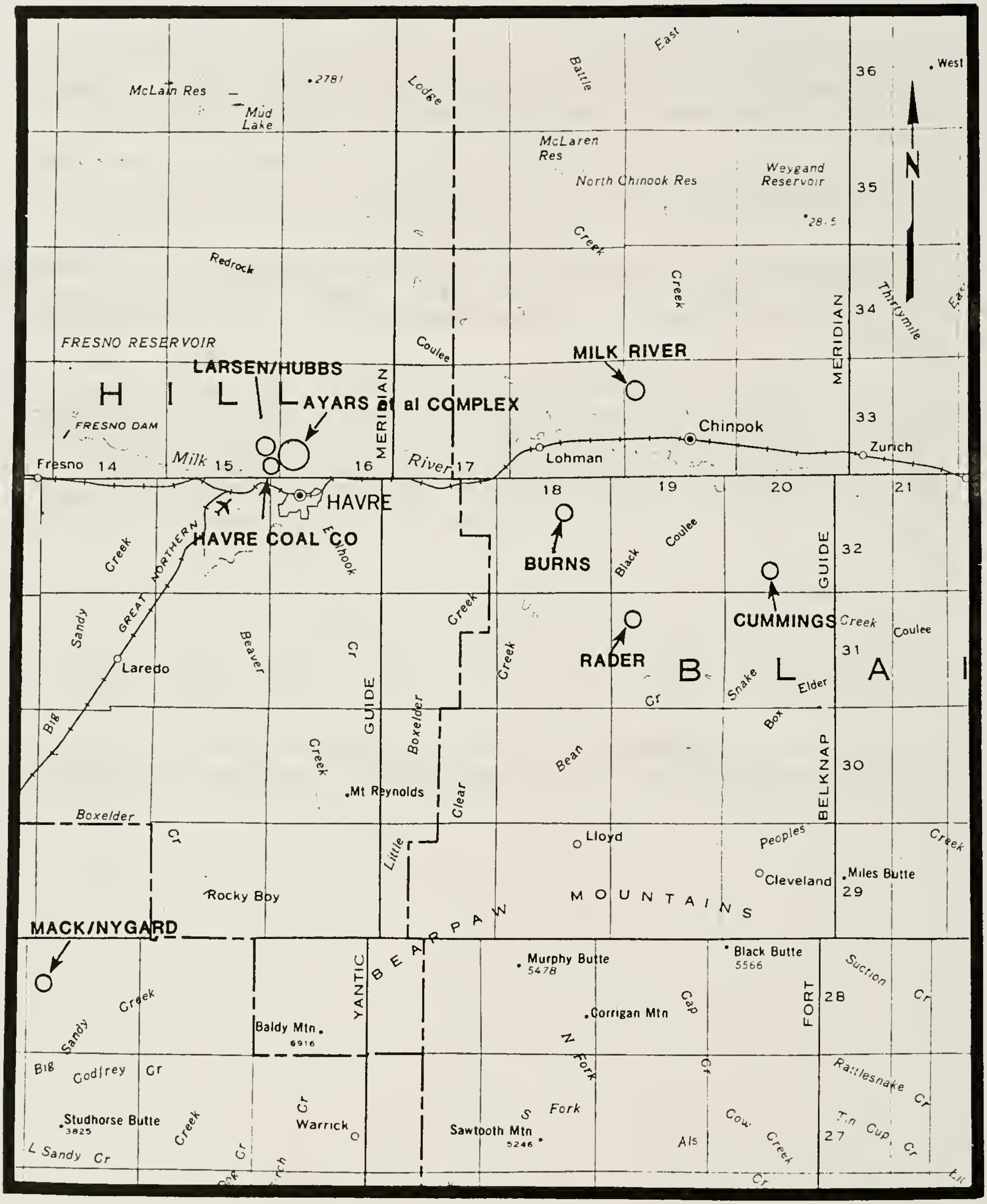


Figure 1. Map showing location of project sites (USGS State of Montana - 1966 - 1:500,000).

LEGAL DESCRIPTION OF PROJECT MINES

Mack/Nygard: NW1/4 & NE1/4 SE1/4 section 18, T28N R14E

Larsen/Hubbs: SE1/4 SW1/4 section 24, T33N R15E (Hubbs)
NE1/4 NW1/4 section 25, T33N R15E (Larsen)

Ayars/Jackson/Hoppe/Alcott/Gussenhoven/Wieck Complex: W1/2 section 29 and E1/2 section 30, T33N R16E

Havre Coal Mining Company: SW1/4 section 30 and NW1/4 section 31, T33N R16E

Milk River/Perkins: SW1/4 section 7 and NE1/4 NW1/4 section 18, T33N R19E

Cummings: SW1/4 NW1/4 SE1/4 section 27, T32N R20E

Burns: SW1/4 NW1/4 & NW1/4 SW1/4 NW1/4 section 11, T32N R18E

Rader/Dehl/Radekop: W1/2 section 5, T31N R19E

METHODOLOGY

The project areas were carefully examined through a pedestrian inventory following standard archeological survey procedures. These pedestrian surveys are designed to provide the most complete coverage of an area possible. Undisturbed areas were systematically examined for possible prehistoric activities. At many of the mine sites examined, large areas have been severely disturbed by mining operations and had there been any prehistoric cultural materials they would have long since been buried or destroyed.

The survey is designed to meet all legal requirements of the National Historic Preservation Act 1980 Amendments by providing all necessary data to allow agency review for National Register of Historic Places (NRHP) eligibility and a determination of the effect of the proposed action.

All sites located are recorded on standard site forms and are assigned a site number by the state site files office at the University of Montana under the trinomial system of the Smithsonian Institution. Each site is examined and measured and a sketch map is drawn showing the location of artifacts cultural features and/or structures and their relationship to natural features within the site area.

Collection of artifacts are limited to diagnostic or patterned tools in the case of prehistoric sites or selected artifacts on historic sites which might aid in dating the site.

Subsurface testing is conducted in order to establish the presence or absence of buried cultural materials. The need for testing on prehistoric sites is determined on a site by site basis at the discretion of the project director. Testing of historic sites is generally dependent on prefieldwork review of the literature which might indicate the presence of significant features or structures.

Each site is photographed in black and white negative and color positive film and each structure on historic sites is photographed to show all significant aspects of the structure.

Prior to the initiation of fieldwork the state site files at the University of Montana, Montana Historical Society's Historic Preservation Office files, and the Montana Fish and Game Commission's Historic Sites Compendium were searched for previously recorded sites in the area. The Bureau of Land Management's records division in Billings, Montana was consulted for relevant GLO Plat maps, historic survey plat maps and historical indexes showing site ownership and other historical features in the vicinity of the sites.

The Historic Sites Compendium and the state site files revealed no sites within the vicinity of the Mack/Nygard mines in Chouteau County. However, a number of historic and prehistoric sites have been recorded in the general vicinity of the Havre and Chinook area mines. The Historic Compendium records two historic sites in the Havre/Chinook area. The original Fort Belknap Agency (24BL176) was built 1-1/2 miles west of Chinook in the

SW1/4 SW1/4 of section 30, T33N R19E. The agency headquarters was occupied from about 1872 to 1888 and was the first permanent agency of the Atsina (Gros Ventre) Indians. The agency was instrumental in maintaining friendly relations with the Atsinas during a period of general Indian-White hostility throughout Montana.

The Compendium also records the Fisk Overland Trail (sometimes called the Minnesota-Montana Road) which traversed the area in the 1860s. The first expedition was financed by the government for $5000 and 50 officers and men were provided to lay out a road linking St. Paul with the Mullan Road at Fort Benton. The expedition was led by Captain James Fisk who persuaded some 125 individuals to join the group at their own expense with their own wagons and equipment. The inducement of an army escort to the gold fields of Montana proved to be the main reason most joined the expedition. They were proven correct since there was no trouble with the Indians and the route turned out to be an easy one. In 1866 Fisk led a second expedition of 120 wagons and 300 persons. The compendium says the road ran along the north side of the Milk River but does not show the exact route. Cushman's Montana - The Gold Frontier shows the route as being a considerable distance north of the river (Cushman 1973:174-175).

However, the diary of Dr. William D. Dibb from the 1862 expedition seems to indicate that the route stayed close to the river on the north bank in the area between present-day Chinook and Havre. Dibb's diary for the 1863 trip gives the same impression while the diary of Robert E. Fisk (James' brother) of the 1866 expediton says only that the route "followed the Milk River Valley" (White 1966:63, 93, 209). The exact location of the road in the area of Chinook and Havre will probably never be known but in any case the route probably passed within a mile or two of the mine sites on the north side of the Milk River at Havre and Chinook (i.e., 24HL320, 24HL319, 24HL321 and 24BL195).

The state site files have recorded a large number of archeological and historic sites within the general Havre/Chinook area although only one is in close proximity to the mine sites. Site 24HL131 is located in the N1/2 SE1/4 of section 25, T33N 15E which places it between the Larsen/Hubbs, the Havre Coal Company mine and the Ayars et al. Mine Complex and outside the areas surveyed. The site is described as a single tipi ring and four stone piles (Aaberg 1978).

To the west of the above site seven additional sites were recorded by Steve Aaberg in 1978 during a survey for the Montana Department of Fish, Wildlife and Parks on the Rookery, Recreation and Game Management Area.

One to two miles north of the Cummings Mine site (24BL196) in T32N R20E there is another block of historic and prehistoric sites. These were recorded by Rich Fox in 1980-1981 on a survey for the Fort Peck to Havre transmission line.

The Historic Sites Compendium rates Hill, Blaine and Chouteau counties as having a high potential for future archeological sites. The area would also be expected to contain historic homestead sites as well as other abandoned coal mines. No previously recorded sites will be impacted by the current Department of State Lands abandoned mines reclamation program.

In compiling the background information for the mines it was found that documentary evidence on some of the individual mines is non-existent or sketchy at best. Few written records were kept at some of the mines and little notice was given to the smaller mines by either the government or the local newspapers. In many cases, a major source of information are local informants who owned, worked in or knew of the mines. While this information is invaluable - and in some cases the only source available - given the length of time that has passed since many of these mines were in operation, it is understandable that some of the data and dates on the sites might not be exact.

GENERAL FEATURES AND PHYSIOGRAPHY OF THE PROJECT AREA

The project area is located within the northwestern part of the Great Plains region. The glaciated, rolling terrain is at a average elevation of about 915 m (3000 ft). The generally flat treeless plains throughout most of the region are broken by the rivers and the larger tributaries which have eroded deep channels and have created local badlands, especially along segments of the Milk River.

Most of the project area is drained by the Milk River which flows through a narrow, fairly steep-walled valley with the river forming numerous elbows, cut-off lakes and meanders. The Milk River Valley in this area was originally the preglacial valley of the Missouri which then flowed into the Arctic Ocean. This ancient channel of the Missouri ran southwest from Havre and the remnant of this channel form the broad, flat alluvial valley which is a marked modification to the prevailing topography of the area.

The tributaries of the Milk River are generally intermittent streams. The bench land has numerous small intermittent lakes which are usually alkaline. A few streams in the southwestern part of the project area flow into the Missouri River (Pepperberg 1910).

The region of the Great Plains in northcentral Montana is broken by isolated mountain ranges, one of which is the Bearpaw Mountains. The Mack/Nygard mines (24CH100) are located west of the mountains on an elevated, partially dissected plain with fairly narrow coulees. The remaining mine sites are north of the mountains.

Coal lies under most of this region with two main fields within the area. The Mack/Nygard mines (24CH100) are located within the Big Sandy Coal Field while the remaining mine sites are found within the Milk River Coal Field.

Climate

The area's climate is characterized by extremes of bitterly cold winters and short but hot summers. Day-to-day weather patterns are highly variable being shaped by such factors as topography, sun exposure, precipitation, temperature and prevailing winds. The warm "chinook" winds are a frequent cold season phenomenon. Temperatures during the winter can fall to 40 or 50 below zero F with an average of 40 days of 0° F or colder. Summer temperatures are generally warm with an average of 26 days a year where the temperature is 90°F or higher. Seasonal transitions can be very rapid. Average precipitation for the area varies between 9 to 14 inches per year with the usual wet season comining in May or June.

Vegetation

Vegetation in both the Big Sandy and Milk River fields generally falls within the Northern Grassland zone with large areas under cultivation for wheat and hay. Wild species of prairie grasses include: needle and thread, blue grama, western wheatgrass, junegrass, green needlegrass, threadleaf, clubmoss, sagewort, saltgrass and porcupine grass. Patches of sagebrush are found throughout the region while patches of Rhus are found in drainages and near areas of surface water. Few trees grow in the open range areas but cottonwood, willow and underbrush are found along the Milk River and its larger tributaries while pine trees grow throughout the higher elevations of the Bearpaw Mountains.

Geology

The general geological history of the northern plains region which includes the Big Sandy and Milk River coal fields is summarized by Ruebelmann and based. on Perry (1962) as follows:

> Beginning over 500 million years ago, sedimentary beds were deposited on basement rocks by a succession of shallow seas which inundated the land and resulted in the formation of limestones, shales, and sandstones. The various isolated, igneous dome structures appeared about 65 million years ago when the late Mesozoic-early Cenozoic orogeny of the Northern Rocky Mountains uplifted much of the surrounding plains. During the Quaternary (late Cenozoic) Period, continenal glaciation covered much of the northern part of the region resulting in subdued landscapes and deposition of sand and gravel (Perry 1962). Throughout the geologic history of the area, erosion has been active in degrading and changing the surface of the region.
>
> The geological formations consist of nearly horizontal beds of sedimentary rocks about 5,000 feet thick (Perry 1962). Exceptions to this are the intrusive igneous rocks located within the mountainous areas where the sedimentary rocks have been sharply tilted by uplifts and subsequently eroded by wind and water action. The amount of the sedimentary beds exposed at the surface in any particular area depends on erosion and uplift. The youngest beds are located out on the plains where little uplift and erosion has occurred. The oldest beds outcrop in the mountainous areas where erosion and faulting have exposed the uplifted younger beds. Thus, in the lowlands of the region, the Cenozoic period gravels and late Mesozoic period shales or sandstones occur on the surface, while early Mesozoic Period and Paleozoic Period formations outcrop in the highlands (Ruebelmann 1982:5).

CULTURAL BACKGROUND

Prehistory of the Project Area

Human occupation of the Northwestern Plains can be documented for the past 12,000 years. Archeological resources are rich and widespread in this area. Major excavation of several bison kill sites and occupation sites has occurred. The most important initial research in the Northwestern Plains was done by William Mulloy. In the late 1930s Mulloy directed the excavations of Pictograph Cave, a multi-component rockshelter near Billings, Montana. Utilizing data from this site and others, Mulloy (1958) developed a cultural chronological system for the Northwestern Plains that has been widely accepted and utilized. Recently, Frison (1978) has modified Mulloy's chronological system to a certain degree and Reeves (1983) refined it.

Ruebelmann (1980a) has proposed a prehistoric settlement subsistence model for the glaciated prairie region of northern Montana. The pattern of settlement is described as "herd nomadism". Specifically, this refers to groups of hunters whose subsistence strategy and location of settlement areas is intimately tied to and associated with the behaviour of large bison herds on which hunters depended. This model is most applicable to the chronological periods starting with the Pelican Lake Phase of the Late Plains Archaic Period and ending with the Old Woman's Phase of the Late Prehistoric Period. For this time period sites can be classified into four functional types: 1) habitation, 2) procurement, 3) industrial, and 4) ritual. These are based on specific features and cultural material observed: stone circles, stone cairns, hearths, lithic scatters/cobble testing sites, bison kills, burials, and petroforms.

Numerous reconnaissance surveys and excavations have been carried out in Montana and the prairie provinces of Canada. Projects by amateurs and professionals which have provided significant interpretive information on the prehistory of northern Montana are discussed. The Milk River Archeological Society, active for many years, examined many private collections, located numerous archeological sites, and test excavated several of the sites. Early surveys include Kehoe's (1954 and 1960) investigations on the Blackfeet reservation, Miller's (1963) reconnaissance of the Tiber Reservoir Basin and Mallory's (1963) inventory of the Missouri River Breaks area. Wedel (1951) and Kehoe (1959) dealt with topical studies of Northwestern Plains ceramics. Hurt (1963) in review of bison kill sites in the Northern Plains discussed several kill sites in north central Montana.

Leslie Davis (1965 and 1966) has dealt with topical research problems in north central Montana. Davis and Stallcop (1965 and 1966) have published reports dealing with excavations at: 1) the Keaster Site (24PH401), a stratified, Pelican Lake bison kill and occupation site in the Missouri Breaks area; and 2) the Wahkpa Chu'gn Site (24HL101), a multi-component bison kill site in the Milk River Valley of north central Montana.

Keyser (1979) discussed bison procurement patterns during the Late Prehistoric period based on sites around the Fresno Reservoir. Lahren (1979), Davis (1975), Professional Analysts (Deaver and Aaberg 1977) and Steere (1980) conducted extensive inventories of lands north of Malta. Ruebelmann (1980b) has reported on the Henry Smith Site (24PH794) located in the breaks area of the Milk River Valley near Malta, Montana. The Henry Smith Site is a multi-component Avonlea Phase bison kill and butchering area with three or four occupations.

Historic Background of the Milk River Area

The Milk River region first became an official part of the United States in 1802 with the Louisiana Purchase. A few years later the general area was first explored by the Lewis and Clark Expedition in 1805 and 1806 when they traveled up and down the Missouri River. During the westward journey, Lewis noted the appearance of one of the regions major resources. On April 22, 1805 he wrote in his journal:

> Coal or carbonated wood pumice stone lava and other mineral appearances still continue. The coal appears to be of better quality; I exposed a specimen of it to the fire and found that it birnt [sic] tolerably well, it affored but little flame or smoke, but produced a hot and lasting fire (Devoto 1953:98).

The exploitation of this resource was still some 80 years in the future but immediately following the Lewis and Clark Expedition there was an influx of white Americans in search of another of the region's main resources: furs. The fur trade was a major economic activity in the area from 1806 to approximately 1850. Most of the early trappers worked individually or in small groups. The large "brigade" type trapping groups were developed during the 1820s and 1830s. The fur trappers and traders explored most of the tributaries of the Missouri River, including the Milk River. In the 1840s and 1850s several small trading posts were built and operated for a short period of time along the Milk River and near the mouth of the Milk River. The fur trade died out during the 1850s chiefly because of the depletion of the beaver population but also because of a decline in popularity of the beaver hat and increased competition from the textile industry (Toole 1959; Larpenteur 1962).

The beaver fur trade was followed by the buffalo robe trade. Initially this involved trading with Indian groups for buffalo robes. Two small trading posts which dealt primarily in buffalo robes were built in the late 1860s. Fort Browning was located near the Milk River in the vicinity of present-day town of Dodson while Fort Tournay was located on Frenchman Creek about 25 miles north of the Milk River (Bertino 1976; Davis 1975). The discovery of tanning techniques in 1871 which made it feasible to make buffalo skins into leather greatly increased the demand for hides. To meet the demand the buffalo robe industry changed from a small scale operation to one of systematic wholesale extermination of the buffalo herds by professional hunters. By 1883 some 13 million of the shaggy beasts had been slaughtered leaving only about 200 buffalo left throughout the west. So many bones were left on the Great Plains that a temporary but profitable industry developed where the bones were collected and sold as a phosphate source for fertilizer (Malone and Roeder 1976).

The extermination of the bison along with the intervention of the United State military ended Indian resistance to white encroachment. Treaties were signed whereby the Indians agreed to live on reservations which, from their inception, began to shrink in size. In 1874, the Gros Ventres, Assiniboine and Blackfeet were given lands north of the Missouri and Marias Rivrs as their reservation. White pressure for the land started immediately and by the middle of the 1880s the United States government had ceded most of this land away from the Indians.

In 1887 the Dawes Act, which divided Indian land into allotments, further hastened the process. During this period Fort Assinniboine was established six miles southwest of present-day Havre. The fort was in existence from 1879 to 1911 and troops stationed there helped patrol the Milk River country. Later it evolved into a regimental training fort (Fish and Game Commission 1975).

Two other historic sites within the vicinity of the project area which date from this turbulent period are the Chief Joseph Battleground and the original Fort Belknap Agency. The battleground, located 16 miles south of Chinook, was the site of the final battle of the last major Indian-White war when Chief Joseph and the Nez Perce surrendered to Col. Nelson A. Miles on October 5, 1877. The original Fort Belknap Agency located 1-1/2 miles west of Chinook was occupied from 1872-1888 and was instrumental in maintaining peaceful relations with the Atsina (Gros Ventre) Indians during this troubled period. The agency moved to its present location four miles southeast of Harlem in 1888 (Fish and Game Commission 1975).

By the 1880s cattle ranching was a major industry in northern Montana. Cattle and sheep ranching had started at small ranches in the southwestern part of the state to serve the rapidly growing mining camps. However, in the 1870s the increased local and national demand for beef resulted in cattlemen expanding to the north, east and northeast. Montana had what seemed to be an unlimited open range. In the 1880s large well-funded, out-of-state cattle operations began to run herds on the free range with local Montana stockmen. The development of large herds, overgrazing and the deadly winter of 1886-1887 resulted in financial disaster for the cattle industry. In the aftermath of this disaster, open range methods were changed with the trend towards the creation of large ranching empires. The owners of four ranches - the Phillips, Coburn, Matador and Phelps - at one point controlled a cattle range which stretched from Glasgow to Havre and from the Missouri River to the Canadian border. By the 1890s sheepranching had also become a major industry (Fletcher 1960).

The Milk River valley has been an important transporation route from the 1850s to the present. The area was first officially traversed by the Stevens Expedition in 1853, the first of four such groups sent out by the government to survey possible transcontinental railroad routes. In the 1860s gold discoveries in southwestern Montana led to increased movement through the region. Prospectors traveled up the Missouri and also forged new routes such as the Fisk Trail. The route established by Captain James Fisk in 1862 was to provide an easy wagon road from St. Paul which would connect with the Mullan Road at Fort Benton. The road ran along the north side of the Milk River and passed within the vicinity of the project area. Fisk led a second expedition in 1866 with a train of 120 wagons, 250 men and 50 women and children. The route had proved to be a good one but yet was never heavily used. (Cushman 1973; Fish and Game Commission (1975).

The Milk River Valley began to develop as a region of small homesteads and small towns during the 1880s with the arrival of the Great Northern Railroad. The driving force in this undertaking was James J. Hill (for whom Hill County is named) who started to promote the concept of a route through the Northern Plains following a visit to the area in 1882. The main obstacle was obtaining government permission to build through Indian lands in northcentral Montana. In 1887 permission was granted and in an unprecedented flurry of track laying, Hill pushed the line (then called the St. Paul, Minneapolis and Manitoba Company) from Minot, North Dakota to Helena, Montana in a little over seven months (Hill County Bicentennial Commission 1976).

The Great Northern was the one major railroad line which was not subsidized by massive government land grants. In order to make the line profitable, Hill conducted a persuasive campaign to lure settlers to the area. The well-financed promotional campaign received added support from local and state boosters (Billington 1960). Favorable weather conditions, improved dry land farming techniques and the availability of cheap or free land led to a homesteading boom in the Milk River valley during the first two decades of the twentieth century. The towns of Cypress (near the present town of Big Sandy), Chinook, Harlem, Malta and Havre (originally called Bull Hook Bottoms) were founded or experienced their greatest period of growth. The homesteading boom ended in the 1920s due to increasing drought and declining farm prices. Many homesteaders lost their land during the 1920s and 1930s and left the area. Those who survivied consolidated farms into larger units and the region's population and economy stabilized at somewhat it present size and character.

During the boom period at the turn of the century one industry was envisioned as the basis for a large scale industrial development for the region. The area's coal resources were seen to be the easily mined, cheap fuel which would result in Havre even becoming a possible rival to Butte or Great Falls. The coal banks around Havre and Chinook were seen as inexhaustable and containing the finest quality coal to be found. It was also believed that the coal could be mined with greater ease and safety than any mine in the state. It was, however, a case of grandiose expectations followed by a more modest - yet still significant - reality (The Havre Plaindealer Oct. 2, 1909).

Small coal mines were established in the area with the first settlement in order to provide fuel for domestic needs. The Chinook Opinion on May 8, 1890 mentions four mines around Chinook which were in operation while the Havre Plaindealer on December 19, 1903 states that there were seven mines working around Havre which employed about 60 men and brought in $70,000 to the local economy during the previous year plus another $25,000 paid by the government for coal shipped to Assinniboine.

The missing ingredient for large-scale development of the area's coal fields was sufficient capital to build the necessary facilities for a major coal operation. In 1907 local business men were given a tour of the new Havre Coal Company (formerly the Havre Fuel Company) mine just north of Havre. The businessmen were impressed and outside capital was invested. Surface facilities at the mine were greatly expanded and a narrow-gauge electric railway was built from the mine head to the Great Northern tracks at Havre. The Great Northern offered assistance of its bridge building crews for the bridge across the Milk River which was reportedly built in a record three days. Everything appeared favorable for large-scale development: the mine was dry so water pumps were not needed, little timbering was required, the mine was gas free so mine ventilation was not a problem, coal was in great demand and prices were at a premium, and the mine was working a coal field estimated to have nine million tons, giving the mine a life expectancy of some 20 years. 4, 1907; April 19, 1907; Hill County Bicentennial Commission (May 1976).

The coal itself was said to be:

> . . . the highest grade of domestic fuel that is produced in the northwestern Rocky Mountain slope and will find ready sale in any competitive market it enters. It is jet black and lustrous in appearance. . . the fuel lights easily and burns brightly, it lasts well and makes continued and intense heat. There is no soot, iron or sulphur in the coal, and in these has a considerable advantage over most of western coals" (The Havre Plaindealer Oct. 2, 1909).

The mine never achieved the initial expectation that it would become ". . . one of the largest and most constant producers of the western country" (The Havre Plaindealer Oct. 2, 1909). The reason was simple: the coal, in spite of the glowing descriptions of it in the local newspapers, was a sub-bituminous type that was not suitable for use by the railroads or industry. The local investors and boosters would have been dismayed to read the more prosaic description of the coal's quality by Leon Pepperberg in 1908 where he states:

> ...the Milk River field is high in moisture and slacks rapidly on exposure, it can not be shipped great distances in uncovered cars. The rapid disintegration of the coal when burned, together with its low specific gravity, make it a poor railroad fuel with engine grates of the present pattern and the strong drafts of the locomotive, as much of the finely-divided coal would be lost through the grate bars and the stack (Pepperberg 1910:107).

The area's mines, however, did play a significant role in the economy and development of the Milk River valley. The Havre Coal Company mine furnished most of the fuel needs for Havre while the Milk River Coal company supplied much of the coal consumed by Chinook. This was no small item since the fuel needs of businesses, offices and homes were substantial in this area during the winter. During the autumn about a thousand tons of coal a day were delivered to Havre. Large buildings such as the courthouse or the hospital burned anywhere from six to nine tons of coal a day. Many miners and wagon drivers were kept employed and numerous small wagon mines were kept in operation to supply the domestic fuel needs of the region. The extent of this wagon mine industry can be seen from the following partial list of mines which were either mentioned or had an advertisement in the local newspapers from 1890 through the 1930s:

Yampen Coal
Richardson Bros.
Huntely Coal
A.G. Staton
Oliver St. Germain Coal

Big Six Coal
Klein & Mattae Coal Dealers
John Lindahl Coal
Gilt Edge Coal
A. S. Lohman

Auld & Lamey Coal
Clark Bros. Coal
Stringfellow
Ben Richardson Coal
Wm. Shearer Coal
Smedegor, Shrauger & Smith Coal
Anderson & Burke Coal
Klondike Coal
M. J. Kearney Coal
H. F. St. John
Hesser & Varney Coal
Black Diamond Coal
McCrea Bros. Coal
Flannagan Coal
H. C. Ervin Coal Co.
Chinook Coal Co.
Jack Lomas
Anderson Fifer
Bragg Gutosky
Heeter
Black Coulee
Johnson Miller
Matheson & Shearer Coal
R. B. Snedecar Coal
Dolph Stocklin
E. V. Hauser
Electric
Brown
Barrott's
Banks & Severn
Pauly & Wickizer
Stevens & Gilbert
O'Hanlon
State Coal
Matheson
Kerr
Tumbler
Leabo
Schean

There were undoubtedly numerous other small wagon mines which provided coal for one or just a few familes and would have never been mentioned. Although most of these mines have vanished without a trace and were not of great significance by themselves, combined they were instrumental in making possible the settlement of the area. Until the late 1920s there was virtually no other cheap and practical fuel source available and for an area such as this where long and harsh winters are the rule this could be a crucial factor in determining whether development would occur at all.

By the 1930s most of the area's mines had closed although a few like the Milk River Mine and the Rader Mine continued to operate through the 1960s. Many of the mines closed because they ran out of good quality coal. The Havre Coal Company mine is an example of this. When it shut down in the mid 1920s it did so because it had mined out the coal to a point where it was no longer economically feasible to continue operating. Much of the coal in the field is in thin lenticular seams with a high percentage of bone and slack impurities. Many of the smaller mines north of Havre were forced to close because they encountered areas of this type of low-grade coal. By this time cheap alternative energy sources such as natural gas and oil were becoming available. Finally, by the 1930s underground coal mining was becoming too inefficient and uneconomical to compete with the developing strip mining industry in southeastern Montana. In 1930 the Milk River Coal Field produced only 12,017 tons which averaged 1.92 tons per man per day which was the lowest in the state. By comparison, the open pit mine at Colstrip produced 1,181,000 tons for an average of 48 tons per man per day. F. G. Tryon and W.H. Young state: "this is probably the cheapest energy measured in terms of human labor, produced at any coal mine in North American" (Turner et al. 1933:17). There was no way small mines like those around Havre and Chinook could compete with this new technology. For three or four decades, however, the coal mines in the Milk River and Big Sandy coal fields were a vital factor in the founding and early development of the northcentral region of Montana.

SITE NARRATIVES

Site Identification: 24CH100 - The Mack/Nygard Mines

Location: NW1/4 and NE1/4 of SE1/4 of section 18, T28N R14E

Area: 160,000 m^2

Elevation: 991 m

Description: The Mack and Nygard mines are located at the upper end of Coal Mine Coulee on the north side of the road (Figures 1 and 2). Steep, grass-covered hills rise on both sides of the coulee which is fairly narrow at this point. Other vegetation on the site area includes patches of sagebrush and cottonwood trees along the stream which flows through the coulee. The mine adits and tipple are on a south-facing slope with a large coal waste dump covering the lower part of a drainage which runs north to the open bench area above the coulee.

Structures and Cultural Materials: The most prominent structure remaining on the site is the ruins of the tipple (Figure 3, feature 1). The wood structure was constructed in segments on the hillside with the top on the level with the adit entrance. The structure measures 5 x 33 m. The tipple is in poor condition and is partially collapsed. The remnants of the mine car rails run along the hillside to the main mine entrance about 100 m to the northwest A small (3 x 4 m) wood frame shack is located adjacent to the adit portal and appears to have been used for running the electric equipment inside the mine (features 2 & 3, Figure 4). Mine car rails also run a short distance to the northwest from the shack to what may have been another mine entrance (feature 4). To the east of the main mine portal is another possible mine opening (feature 5). A number of junked mine cars are found near the top of the tipple and near the main mine portal. Immediately in front of the mine entrance is an electric engine used for hauling the coal cars from the mine. A few meters to the east of the tipple is a collapsed wood structure of unknown dimensions or purpose (feature 6).

At the east side of the site are the remnants of the Nygard Mine which contain no structural remains. A large coal slack dump is found at the bottom of the drainage. Three possible mine openings (features 7, 8 and 9) are found on the hillsides on both sides of the drainage. The only other cultural materials are pieces of mine car rails and junked mine cars.

Historical Development: The first Mack mine was open by Cecil C. Mack around 1895 in the northeast corner of section 18. Bowen mentions the mine in his 1912 USGS report and the 1896 surveyor's plat of section 18 shows the mine location (Bowen 1914, BLM Surveyor Plat 1896). Mack's son, Cecil Mack Jr., and Bowen mentioned that the mine sold coal to Fort Assiniboine and it was reported that John J. Pershing, who would later become the general who would lead U.S. forces in World War I, was one of the soldiers in charge of the detail which obtained coal from the mine. This small mine was in operation for only about two years before closing due to water problems and a steep pitch of the coal vein which made mining difficult. The mine was re-opened briefly during the 1920s as the Mackton No. 2 mine but then was closed for good (Mack 1984).

Shortly after the first Mack mine was closed around 1897, Cecil Mack opened a new mine at the present site location in the southeast corner of the section. For the next three decades the mine produced a good quality of semibituminous coal which was mined by an average of 15 men. The mine was not troubled with gas but did have some water problems from time to time. During the early 1920s the mine was converted to an electric haulage system and the horses which had been used were phased out. Cecil Mack ceased operating the mine during the 1920s and leased it to other operators. The first leasee was Julius Nygard who had operated his own mine adjacent to the east side of the Mack Mine during the 1920s. There had been some friction over the dividing line separating the two mines but this problem was solved when Julius's brother, Oscar Nygard, leased the Mack Mine and combined it with the Nygard as a single unit. The mine continued to operate on a small scale, producing about 1000 tons per year through the 1930s. During the last years the mine was in operation it was leased by James Pursley who ran it until the declining demand for coal and a scarcity of miners forced it to close for good during World War II (Mack 1984; Bowen 1914; Pepperberg 1910).

The largest mine in the area was the Mackton Mine located in the southwest corner of section 18. The mine was started around 1905 by the Mackton Coal Company with Paul H. Schwartz as president. By 1908 the company had built and operated a narrow-gauge railway which connected the mine with the Great Northern Railway system. The Mackton and the Havre Fuel Company mine were the only two mines in the area with steam power plants. The Mackton produced about 100 tons of coal a day during the winter season (Bowen 1914; Pepperburg 1910). In 1908 the Mackton Mine produced 2422 tons and many improvements were made to the mine facilities including: a new tipple, new scales, new roads, buildings to house the miners and installation of a water system system (Rowe 1909).

In 1910 the Mackton Coal Company was taken over by a group of Butte capitalists led by Sewell Davis. The group invested $200,000 in new mining equipment and said they would guarantee a minimum output of 100 tons per day from the mine during the next year; 400 tons per day the following year and 500 tons per day thereafter (Chinook Opinion May 12, 1910). Whether these figures were met is unknown but it was reported the mine employed as many as 100 men during this period and the mine was the largest producer in the Big Sandy Coal Field (Mack 1984).

The Mackton was forced to close during the 1920s when a fire damaged the workings. The mine also had problems with layers of bone and slag and faulting of the coal seams. However, the better grades from the mine were sold at towns along the railroad line and were said to have been preferred to the coal from the Milk River coal field mines (Bowen 1914, Mack 1984). Virtually no trace of the Mackton Mine remains today.

Evaluation: Almost no physical evidence remains for the Mackton Mine and very little remains of the Nygard Mine. However, the Mack Mine retains a fair degree of physical integrity even through the tipple is in poor condition and has partially collapsed. The mine was a significant factor in the local economy and is a good example of a relatively small-scale but long-lasting coal mining operation in the Big Sandy Coal Field.

National Register Statement: The Mack Mine appears to be eligible for for listing on the National Register of Historic Places under criteria A since it is associated with events in the local economy over an extended period of time. It is also typical of a small coal mining operation from the turn of the century to World War II and thus would qualify for the NRHP under criteria C.

Management Recommendations: The Montana Department of State Lands plan to either remove or reclaim the coal waste dumps, close any open mine adits or shafts, and remove any hazardous structures. The coal waste dumps are a source of water pollution to Coal Mine Coulee Creek and the open mine entrance is an obvious safety hazard. The tipple is also a safety hazard since it is deteriorating and has already partially collapsed. It is recommended that the Department's plans should be allowed to proceed on schedule. The site has been examined, recorded, mapped and photographed and no further work is recommended.

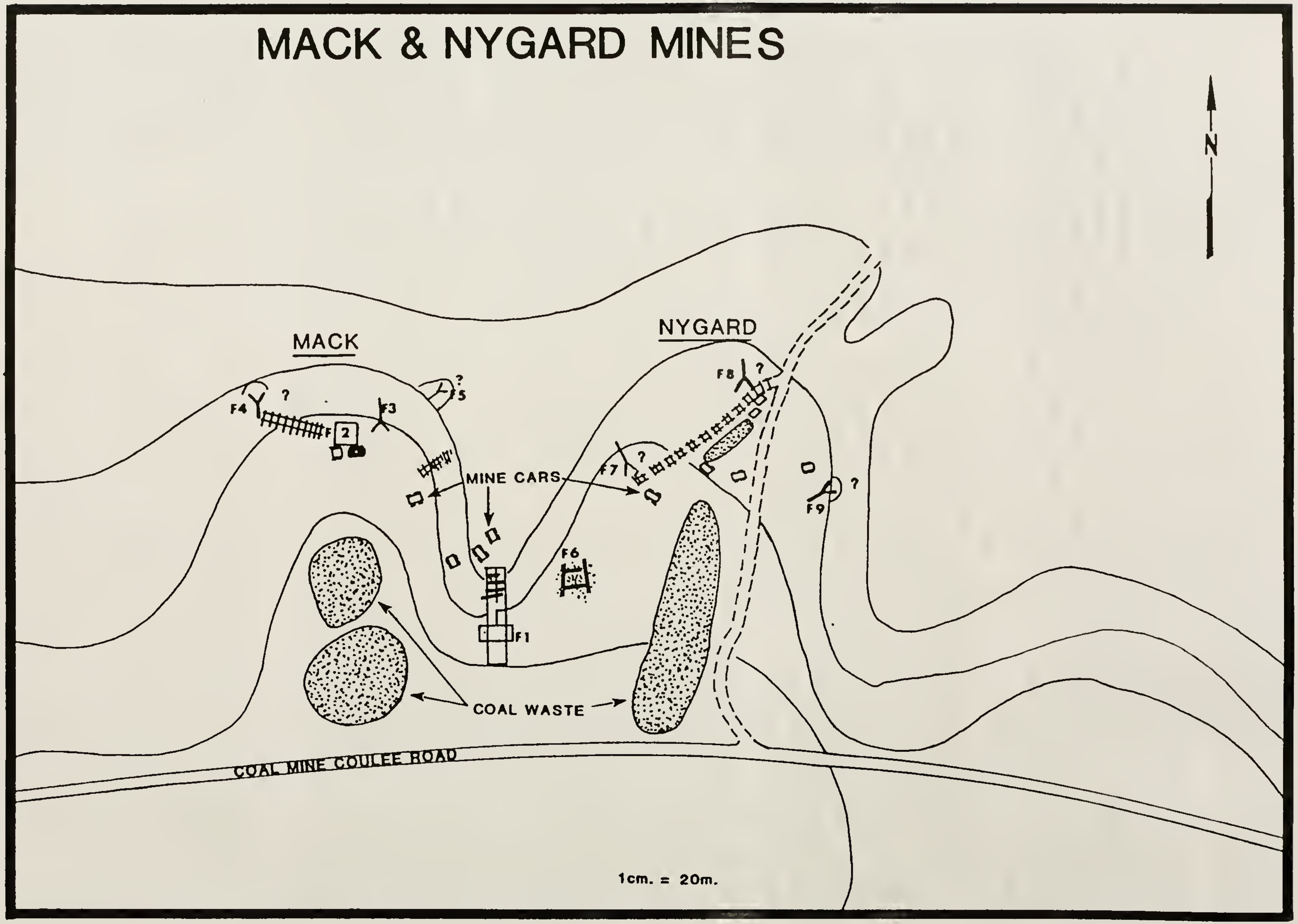


Figure 2. Site map for the Mack/Nygard Mines.

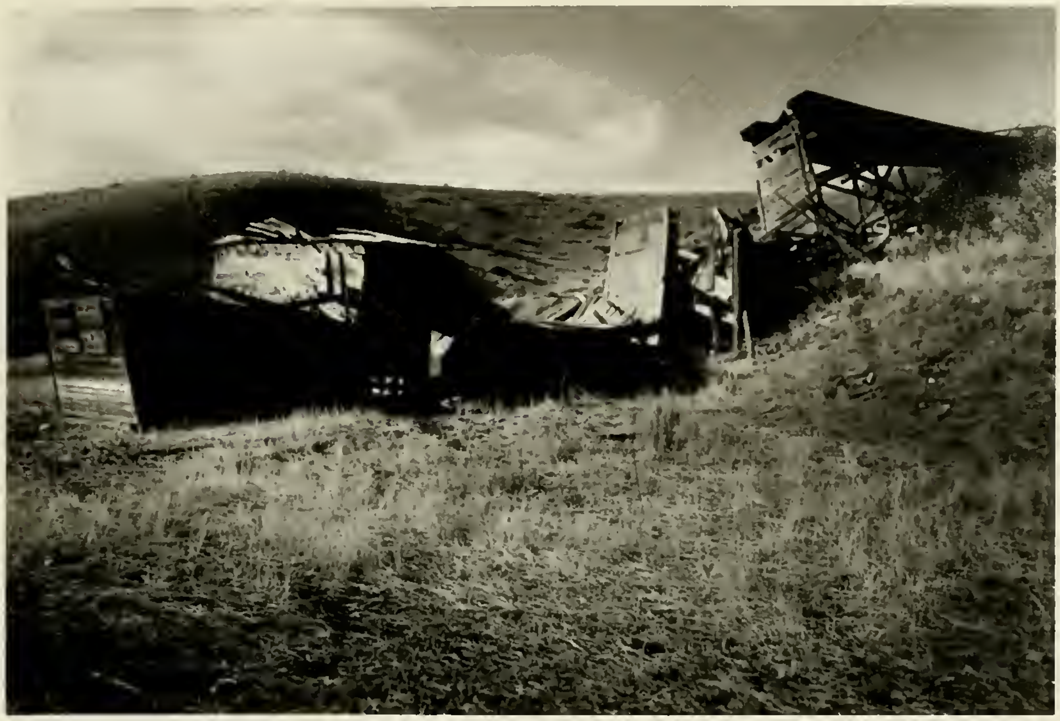


Figure 3. Ruins of the tipple at the Mack Mine (view to west).

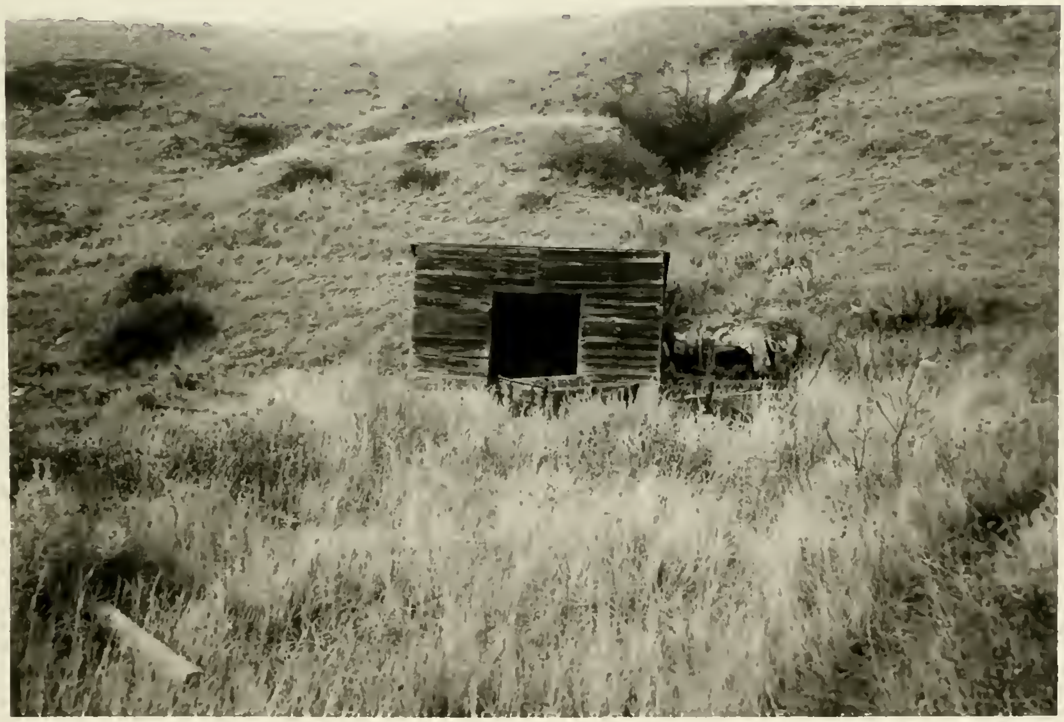


Figure 4. Hoist house and adit portal (to the right of structure) with mine cars in front (view to west).

Site Identification: 24HL320 - Larsen/Hubbs Mines

Location: SE1/4 SW1/4 section 24 (Hubbs) and NE1/4 NW1/4 section 25 (Larsen), T33N R15E

Area: 30,000 m^2

Elevation: 838 m

Description: The site of the Larsen Mine is located at the head of a coulee which flows south to the Milk River (Figures 1 and 5). A trash-filled adit portal and miscellaneous debris and coal waste dumps constitutes most of the site. The Hubbs Mine is located north of the county road on the flat bench area at the head of the coulee. The mine site is marked by a single large coal waste dump

Structures and Cultural Materials: No standing structures remain on the site of the Larsen Mine. The most prominent features are large areas of coal waste (Figure 6). All that remains of the Hubbs Mine is a single large coal slack dump with a few posts which are the remnants of a tipple. The only evidence of a building on the Larsen site is a stone and brick foundation measuring 7 x 10 m located at the east edge of the top of the coulee. A trash-filled adit portal is located 75 m south of the foundation on the east side of the coulee. Other cultural materials observed on the site were parts from a 1920s era truck, a wooden wagon bed, wood wagon wheels and junked farm machinery.

Historical Development: The 1908 USGS report on the Milk River Coal Field by Leon Pepperberg mentions an abandoned prospect at the location of the Larsen Mine which would indicate that the first development of coal in this location probably occurred in the early 1900s. However, apparently no mining was done on the site for the next three decades. The land on which the Hubbs Mine was located was patented to William Sherman Davis under a homestead entry patent (#457760) on February 12, 1915. The land on which the Larsen Mine was located was patented to James A. Brown as a homestead entry (#432418) on September 19, 1914. There is no evidence that either Davis or Brown did any mining on their properties.

The first commerical mining on the site was undertaken by Ole Larsen around 1930, according to his son, Richard Larsen. About this same time the Hubbs Mine was developed and operated by William Hubbs and Fred Gertson. Both mines ran during the 1930s and 1940s and appear to have been moderate-sized wagon mines which sold to the local market for domestic use (Larsen 1984).

Evaluation: Very little physical evidence remains on the site from the original mining operations. There are no standing structures and the most prominent features on the site are coal waste dumps. It is unlikely that further work on the site would reveal any additional information on the original mining operations.

National Register Statement: The physical integrity of the site has been destroyed and therefore the site is not recommended as eligible for listing on the National Register of Historic Places.

Management Recommendations: The Montana Department of State Lands plans to either remove or reclaim the coal waste dumps and close any mine openings. The waste dumps are a source of water pollution and the adit opening is an obvious safety hazard. It is recommended that the Department's plans should be allowed to proceed on schedule. The site has been examined, recorded, mapped and photographed and no further work is recommended.

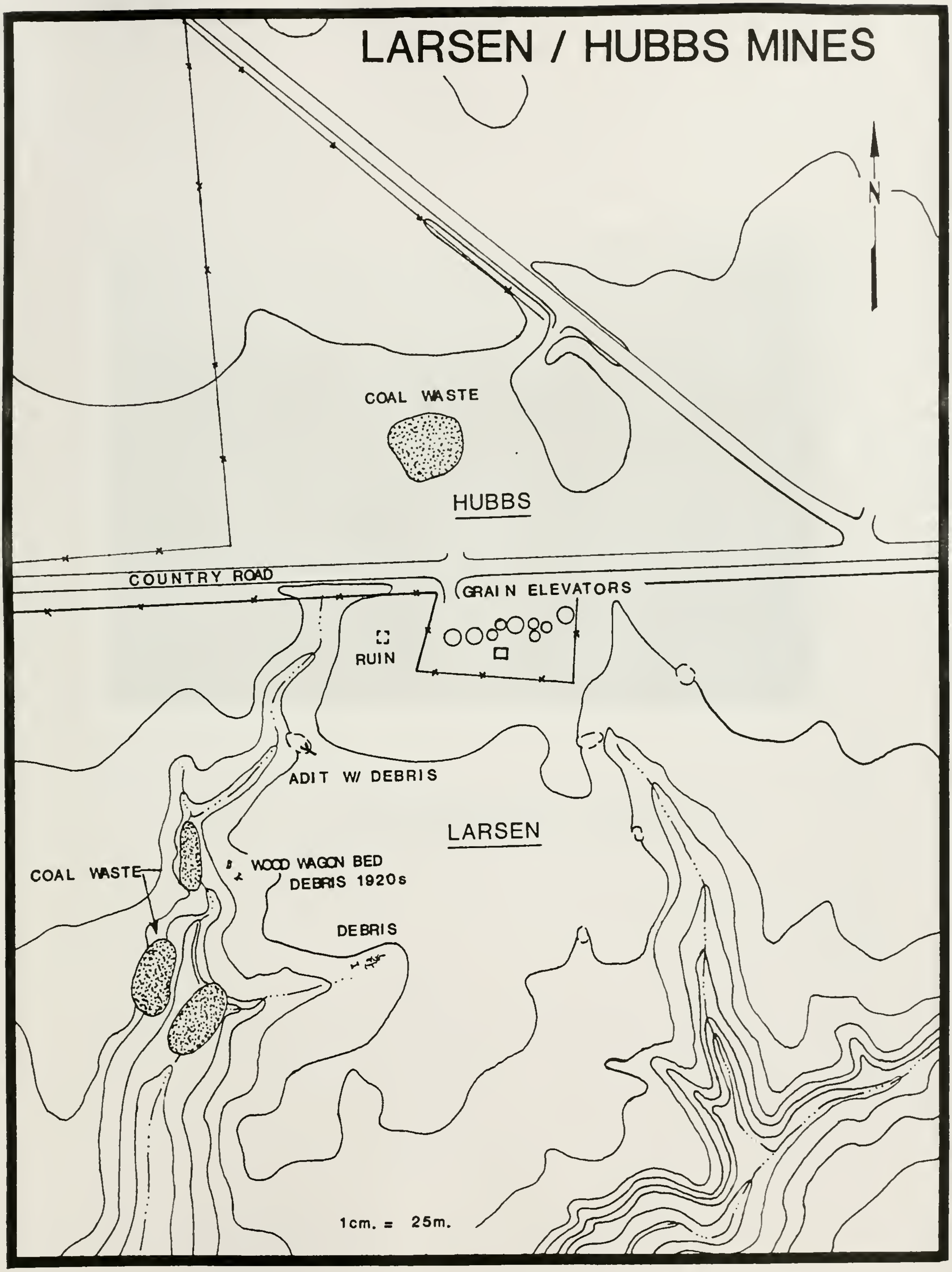


Figure 5. Site map for the Larsen/Hubbs mines.

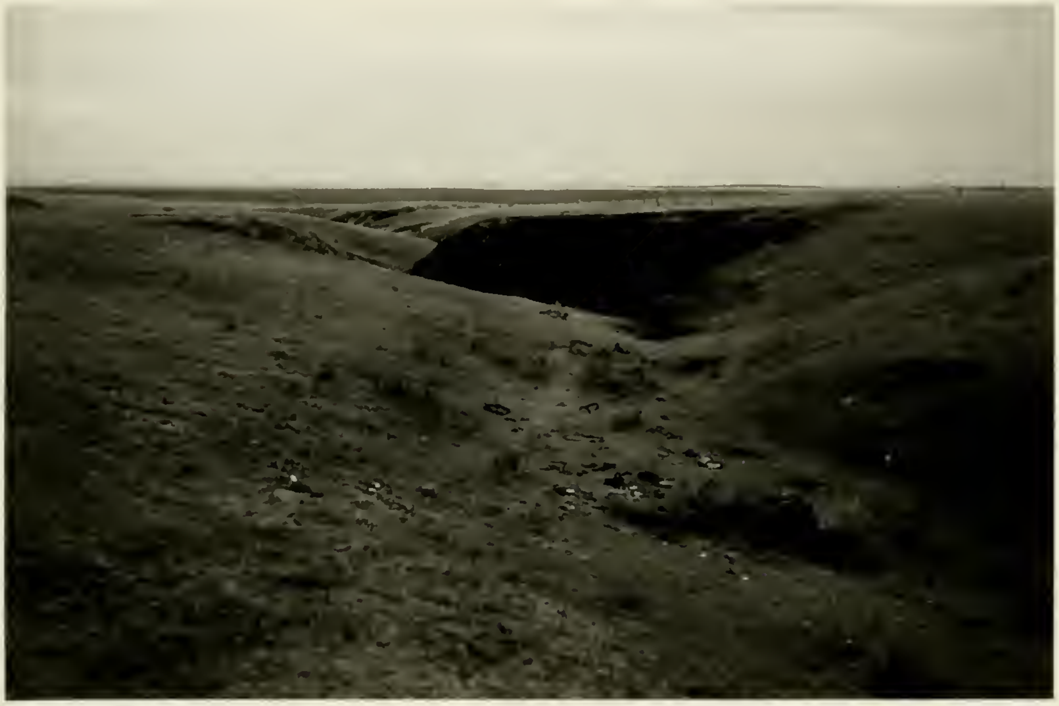


Figure 6. View of the site area of the Larsen Mine (looking south down the coulee).

Site Identification: 24HL319 - Ayars/Jackson/Hoppe/Alcott/Gussenhoven/ Wieck Complex

Location: W1/2 section 29 and E1/2 section 30, T33N R16E

Area: 1,188,000 m^2

Elevation: 838 m

Description: The site covers a large area in the center of the west half of section 29 and the east half of section 30 (Figures 1 and 7). Most of the site area lies within the low rolling grasslands and farmlands on both sides of the small intermittent stream which runs west to east through the two sections. The site consists primarily of coal waste dumps.

Structures and Cultural Materials: The most obvious evidence of the mining operations which were conducted in this area are numerous coal waste dumps which are scattered throughout the site area. Almost no structural remains still exist from the numerous mining operations which once existed in this area. At the eastern end of the site there is a wood frame structure formed by two sheds joined together (feature 1). A few meters to the east of the shed are two concrete foundations, one measuring 9 x 11 m and the second measuring 4 x 4.5 m and 2 m deep (feature 2).

At the northwestern section of the site area there is the remains of a homestead within a rectangular windbreak formed by two rows of trees. Inside the windbreak are two foundations. One is a 6 x 9 m concrete slab foundation, probably for a garage (feature 3). The other foundation is constructed of cinder blocks with the remains of a chimney (Figure 8, feature 4). The 4 x 6 m foundation was most likely for a small house. South of the foundations and outside the windbreak are the faint remains of what might have been a small frame structure and perhaps a barn (feature 5). Scattered around the area was miscellaneous debris of lumber and metal, auto parts and a wood bed frame.

The only other remains of a building observed on the site was a small 3 x 4 concrete foundation for an unknown structure at the southwestern corner of the site (feature 6). Also observed at various places throughout the site area were six adit portals, four of them still open (features 7, 8, 9, 10, 11 and 12).

Historic Development: A number of small mines once existed in this area but very little information is available as to the specific locations, periods of production and the scope of the operations. The western half of the site in section 30 where most of the mining occurred was state held land and thus there were no patent records for land ownership. The 1897 surveyor's plat map for the area does not indicate any coal mine within sections 29 or 30. The earliest reference to a mine in the area was made by Pepperberg in his 1908 USGS report on the Milk River Coal Field. Pepperberg described the "Alcott prospect" in NW1/4 SW1/4 of section 29. The prospect at this point extended about 120 feet into the coal seam which was described as a "2-foot 2-1/2 inch bench [of] clean coal of bright luster with well-developed cubical joints and a colorific value of 9,720 British thermal units on the air-dried sample" (Pepperberg 1910:94). This area was eventually acquired by John R. Alcott and Joseph Gussenhoven as a cash entry (#486374) on August 11, 1915. It is not known if the prospect became a producing mine although from the appearance of the coal slack dumps in the area it would appear that fairly extensive mining operations were conducted at some point. The area is currently under cultivation so nothing remains of the mine's surface facilities except for the coal waste dumps.

Gussenhoven was also reported to have started another mine about this same time to the east of the Alcott prospect. The mine was said to have operated from around 1914 until 1922 and was located at the adits (features 11 and 12) just west of the shed and foundations (features 1 and 2). It extended about 50 feet below the surface to where a 4-foot seam was worked. It is not known if the shed and foundations were connected to these mining operation. During its lifetime, the mine was actually worked by Anthony (Tony) Wieck who acquired a patent on the land as a homestead entry (#543233) on August 21, 1916 (Landskov 1984; Varva 1984; BLM Records). Gussenhoven was involved in the operation of other mines as well as being one of Havre's leading businessmen. The Milk River Eagle on December 24, 1897 carried an advertisement for coal from Gussenhoven's mine "while the roads are good - $3.25 a ton". On May 23, 1903 The Havre Plaindealer carried an article stating that Gussenhoven and A. G. Staton would split the contract to furnish coal to Fort Assinniboine and the Plaindealer on December 19, 1903 mentioned Gussenhoven as one of the operators of the mines around Havre. However, no location was mentioned for either mine and it is not known if they were in the site area.

In the western half of the site area the mines were said to have been divided between the operations of G. J. Ayars and H. A. Jackson, located on the north side of the small coulee which runs through section 30 while John R. Alcott operated on the south side of the coulee. The mines were first driven about 1915 and most operated for about a decade. The mines worked the same seam as the Havre Coal Mining Company's mine. The seams were easily mined with most mines operating from either vertical or slope shafts extending from 50-75 feet to the seams. The coal was said to be of good quality at the bottom of the coulee but encountered large amounts of bone and slack as the mines extended to the north or south. By the late 1920s most of the area's mines had closed simply because the good quality coal had run out (Vavra 1984; Landskov 1984).

The one mine which continued to operate through the 1930s was the Ayars - Jackson operation. Jackson bought out Ayars (who was primarily involved in the operation of the Havre Coal Company mine) sometime during the early 1920s. Jackson, in turn, then sold out to Carl Hoppe in 1927. Hoppe, who was born in 1887 in Eisdorf, Germany, renamed the mine the Hoppe Coal Company Mine and continued to operate it until 1943, making it one of the last mines in the Havre area to close (Hill County Bicentennial Commission 1976; Vavra 1984).

Two other mines in the vicinity of the site worthy of mention are the Kenny (or Kinney) mine and the Hary mine. The Kenny was located about a mile and a half to the west of the site area in the NE1/4 of section 26, T33N R15E. The mine was first reported in operation in 1908 and it apparently continued to run through the 1920s, selling coal to the local market for domestic use. The Hary Mine was started by Louis Hary, who was born in Budapest, Hungary in 1869 and immigrated to the United States in 1890. In 1909 Hary and his family moved to a homestead 15 miles northeast of Havre and then in 1911 he purchased a farm three miles north of Havre where he farmed, worked on the railroad and operated a small coal mine. The exact location of the mine is not known but the general description would place it just north of the site area. In 1917 Hary's son, John, became a partner with his father who changed the name of the company from the Hary Coal Company to Hary & Son. Five years later on October 6, 1922 Louis was tragically killed while trying to rescue John who had been overcome by gas. This was one of the rare reported fatalities in the Milk River area mines which were generally fairly safe as coal mines go, and, ironically, were frequently noted for being free of gas (Turner 1932; Hill County Bicentennial Commission 1976).

Evaluation: Almost no physical evidence remains on the site from what had once been fairly extensive mining operations. The most prominent features marking the mining operations are the coal slack piles which dot the landscape throughout the site area. Adit or shaft portals are the only other obvious remains from the mines. It is not known if the structural remains at the Gussenhoven and the Ayars/Jackson/Hoppe Mines (features 1, 2, 3, 4 and 5) were actually associated with the mining operations. So little physical evidence remains on the site that it is no longer possible to precisely locate the surface facilities of the individual mines. It is highly unlikely that further work on the site would yield additional information.

National Register Statement: The physical integrity of the site has been destroyed and therefore the site is not recommended as eligible for listing on the National Register of Historic Places.

Management Recommendations: The Montana Department of State Lands plans to either remove or reclaim the coal waste dumps and close any mine openings. The waste dumps are a source of water pollution and the adit opening is an obvious safety hazard. It is recommended that the Department's plans should be allowed to proceed on schedule. The site has been examined, recorded, mapped and photographed and no further work is recommended.

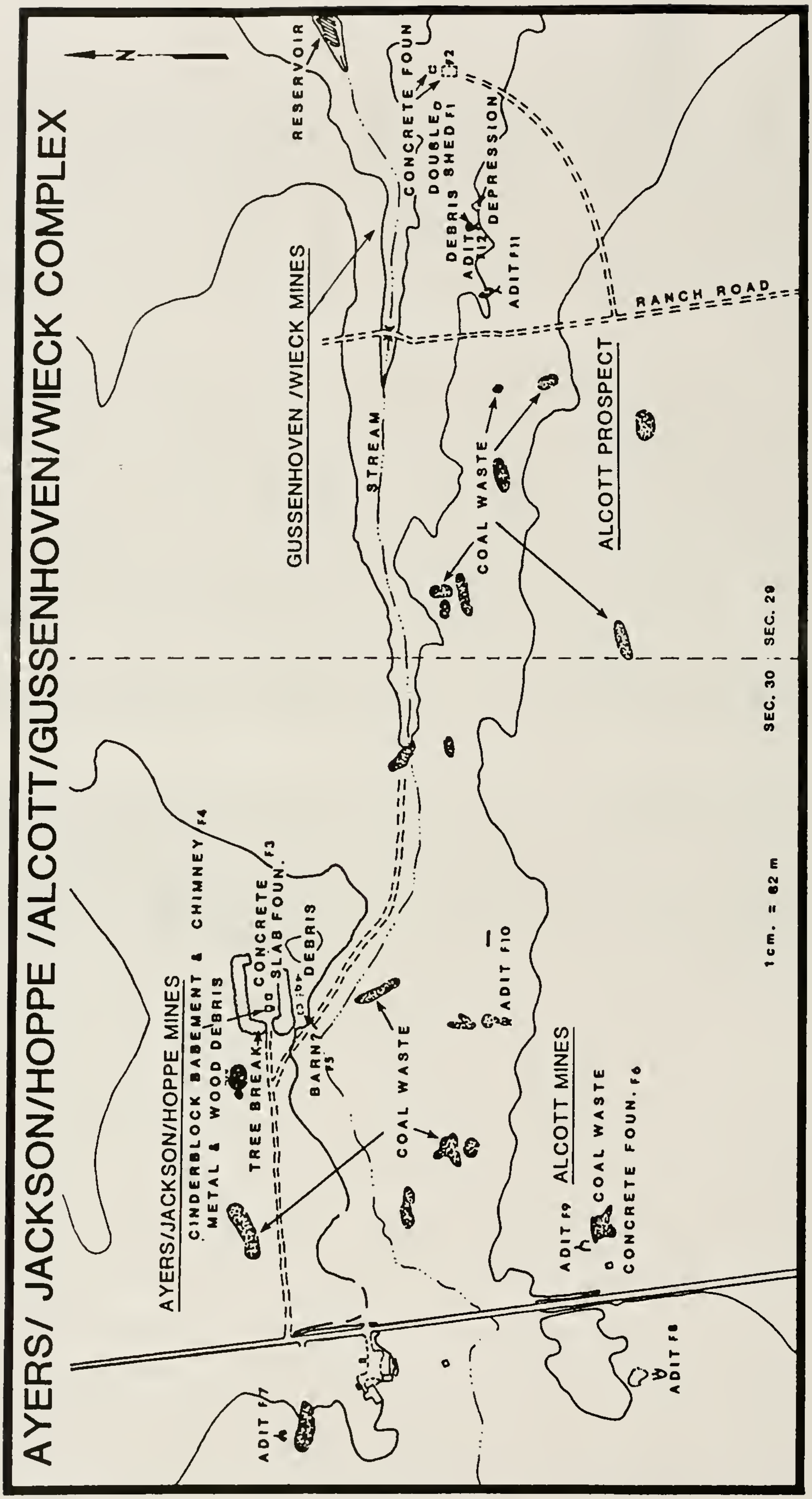


Figure 7. Site map for the Ayers/Jackson/Hoppe/Alcott/Gussenhoven/Wieck Complex.

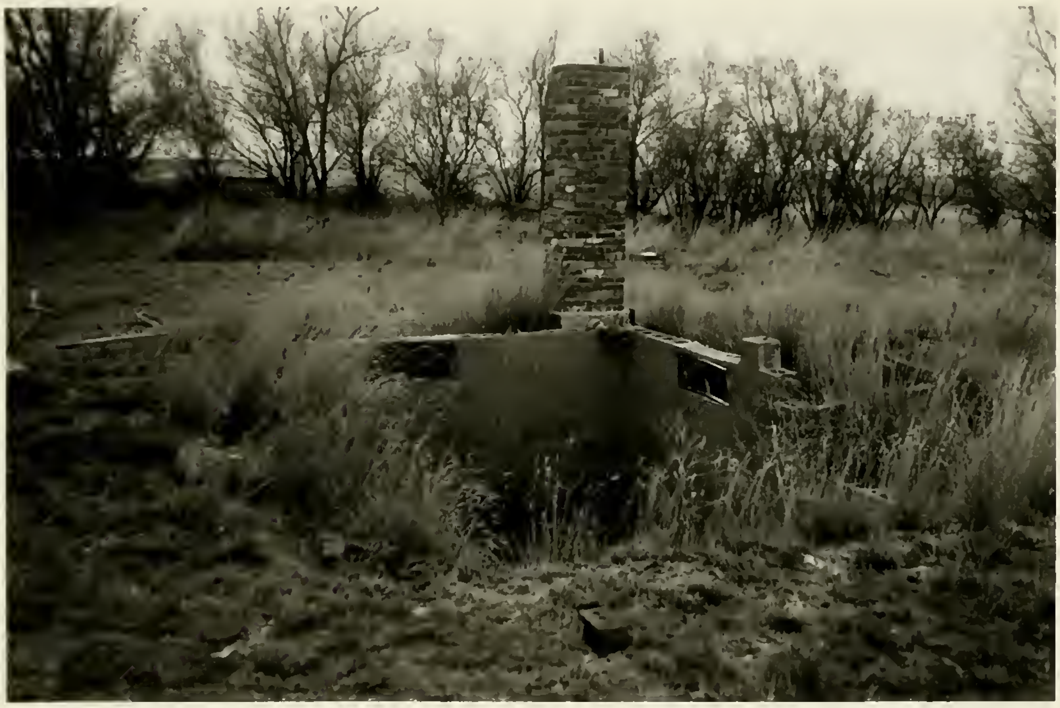


Figure 8. Cinder block foundation on the Ayars et al. Complex (view to southwest).

Site Identification: 24HL321 - Havre Coal Mining Company Mine

Location: SW1/4 section 30 and NW1/4 section 31, T33N R16E

Area: 51,000 m^2

Elevation: 838 m

Description: The site area is located on flat, open bench land to the north of a small coulee which extends up from the Milk River (Figures 1 and 9). The site area is dotted with scattered coal slack dumps which are about all that remains of the mining operation. The area is currently used for grazing and is covered with prairie grasses, patches of sagebrush and occasional growths of Rhus.

Structures and Cultural Materials: No structures remain on the site to mark what at one point had been the largest coal mine in the region. Two concrete foundations at the south end of the site appear to be for mine structures (feature 1). Some concrete slabs at the north end of the site also appear to be the remains of a building foundation (feature 2). Two mine openings were also observed (features 3 and 4) but it is not known if these were adit portals or air shafts. Unfortunately, the April 19, 1907 sketch maps from the Havre Herald (Figures 10 and 11) lack reference points to enable one to relocate any of the original mine structures with any degree of accuracy. However, based on the map it appears that feature 1 might have been the foundation for the blacksmith shop shown on Figure 11 while feature 4 might be the air shaft shown on Figure 11 at the end of the "400 ft" entry (see also Figure 14). The concrete slabs (feature 2) and opening (feature 3) could relate to the bunker and slope entry on Figure 11. No evidence was found of any of the other facilities marked on the 1907 map. The only other remains left on the site from the mining operation are scattered coal slack dumps.

Historic Development: An article in The Havre Plaindealer, dated May 4, 1907 credits the first discovery of coal in the site area to a "Col. Sweat" who was said to have been "a former well known citizen of Havre, and who died here some years ago". Sweat apparently made his discovery known (probably during the 1890s) but did not attempt to develop a mine. The property passed from one to another with little being done until it was acquired by G. J. Ayars. The article states that Ayars "did considerable development and mined a good deal of coal." During this period (probably around 1905) Ayars became partners with J. Strain and F. F. Bossuot in the Havre Fuel Company. Further development was undertaken with the driving of an incline slope to the mine workings and the building of a tipple at the entrance. Special haulage machinery for pulling cars up the incline slope was installed which increased the mine's production to 75 tons per day. By 1906 the mine had some two miles of underground workings and the partners decided the time was ripe for a major expansion (The Havre Herald April 19, 1907; The Havre Plaindealer, May 4, 1907 and October 2, 1909).

The Havre Fuel Company was incorporated as the Havre Coal Company and in early May, 1907 local businessmen were given a tour of the mine in order to raise capital. Funds were also sought from investors in the Midwest for construction of a narrow-gauge railway from the mine to the Great Northern Railway line three miles away; the building of a tipple and power plant at the railhead in Havre; the purchase of additional mine cars, and expansion of other mine facilities (The Havre Herald April 19, 1907 and May 3, 1907; The Havre Plaindealer May 4, 1907; Hill County Bicentennial Commission 1976). 1976).

By the autumn of 1909 the mine expansion program had been completed. The 7,200 foot-long narrow-guage electric railroad from the mine to the Great Northern tracks had been constructed (Figure 12). The tipple and power house had been built at the railhead (Figure 13). At the tipple there was also 600 feet of covered double track, the weigh house, an automatic mine car dump, sorting screens, a four-compartment loading bunker and a 100,000 gallon water tank. A second electric power plant was located at the mine head. The iron-covered 30 x 90 foot structure contained the power plant which lowered the empty coal cars down the incline mine entrance and hauled the full cars to the surface. The cars were then pulled to the tipple at the railhead on the narrow-gauge electric trolley line by a 75 horsepower, ten-ton Westinghouse electric locomotive. The trolley line was equipped with 120 one and one-half ton coal cars. Since the grade from the mine ran down hill it did not take a great deal of power to haul the loaded cars to the tipple. The Westinghouse locomotive could haul from 30 to 40 loaded cars at a time and then would pull the same number of empties up the grade to the mine head (The Havre Plaindealer October 2, 1909).

At the tipple terminal the locomotive pushed the train past the weigh house where each car was weighed. Then the cars were pushed upon the automatic dumping machine which could unload 3,500 tons of coal per day. The empty cars then ran down an incline to a siding where the cars accumulated until they were ready to be taken back to the mine. The coal after being dumped in the tipple passed through a system of screens which cleaned and sorted it according to grade. From the screens the coal rans down chutes to the loeading bunkers. The entire complex was powered by a direct-connected 250 horsepower engine and electric generator in the power plant (The Havre Plaindealer October 2, 1909).

The mine itself consisted of two tunnel entries at the head of the coulee with the main working entrance at the 400 foot long slope which dropped from the surface to the center of the mine workings (Figure 11). Car loads of coal containing from a ton to a ton and a quarter were gathered at the end of the slope entrance in a long assembly room (or parting) and then were hauled to the surface in groups of from three to six cars. The mine workings by this time totalled about five miles of drifts and rooms. The entire mine was lighted by electricity and the standard room and piller method was used to extract the coal (The Havre Plaindealer October 2, 1909).

Great hopes were placed on the mine and predictions were made that it would be one of the largest coal mines in the state and that this in turn would lead to the expansion of Havre as a possible rival to Great Falls or Butte as an industrial center. The quality of the coal was said to be the best in the state; the mine had no problems with gas or water and little timbering was needed; its location gave it economical access to the region's markets; and it was estimated the field had nine million tons of mineable coal, giving the mine a project lifespan of 20 years or more. Projections were made for the mine to produce from 1800 to 2000 tons of coal a day, employing over 450 men (The Havre Plaindealer October 2, 1909; The Havre Herald January 10, 1908).

These optimistic projections never materialized although the mine did become a steady - albeit moderate-sized - producer for the next 15 years. The mine closed around 1925 [no mention of the closing was made in the Havre newspapers although an article dated November 4, 1925 in the Havre Daily Promoter discusses the area's main coal operators and does not list the Havre Coal Company mine as one of them, indicating it had closed by 1925]. The mine closed primarily because it ran out of economically mineable coal during the mid 1920s. Nor was the coal as good a quality as was alleged by the early boosters. It was below bituminous rank and slacked quickly when exposed to air making it unsuitable for use by the railroads or industry. In addition the seams in the area tended to be thin and contained a fairly high percentage of bone and slate impurities. Although the mine never achieved the somewhat grandiose expectations for its future, it did become a prosperous industry in the local economy and for nearly two decades provided most of the fuel for the town of Havre and the surrounding countryside (Chadwick 1973; Rowe 1909; Hill County Bicentennial Commission 1976; Havre Daily Promoter November 4, 1925; Vavra 1984).

Evaluation: Although at one point the Havre Coal Company Mine was the largest coal mine in the Milk River Coal Field, hardly a trace remains of the extensive operation except for scattered coal waste dumps. No structural remains are on the site except for two foundations, a partial foundation and two mine openings. It is highly unlikely that further work on the site would reveal any additional information.

National Register Statement: The physical integrity of the site has been destroyed and therefore the site is not recommended as eligible for listing on the National Register of Historic Places.

Management Recommendations: The Montana Department of State Lands plans to either remove or reclaim the coal waste dumps and close any mine openings. The waste dumps are a source of water pollution and the mine openings are an obvious safety hazard. It is recommended that the Department's plans be allowed to proceed on schedule. The site has been examined, recorded, mapped and photographed and no further work is recommended.

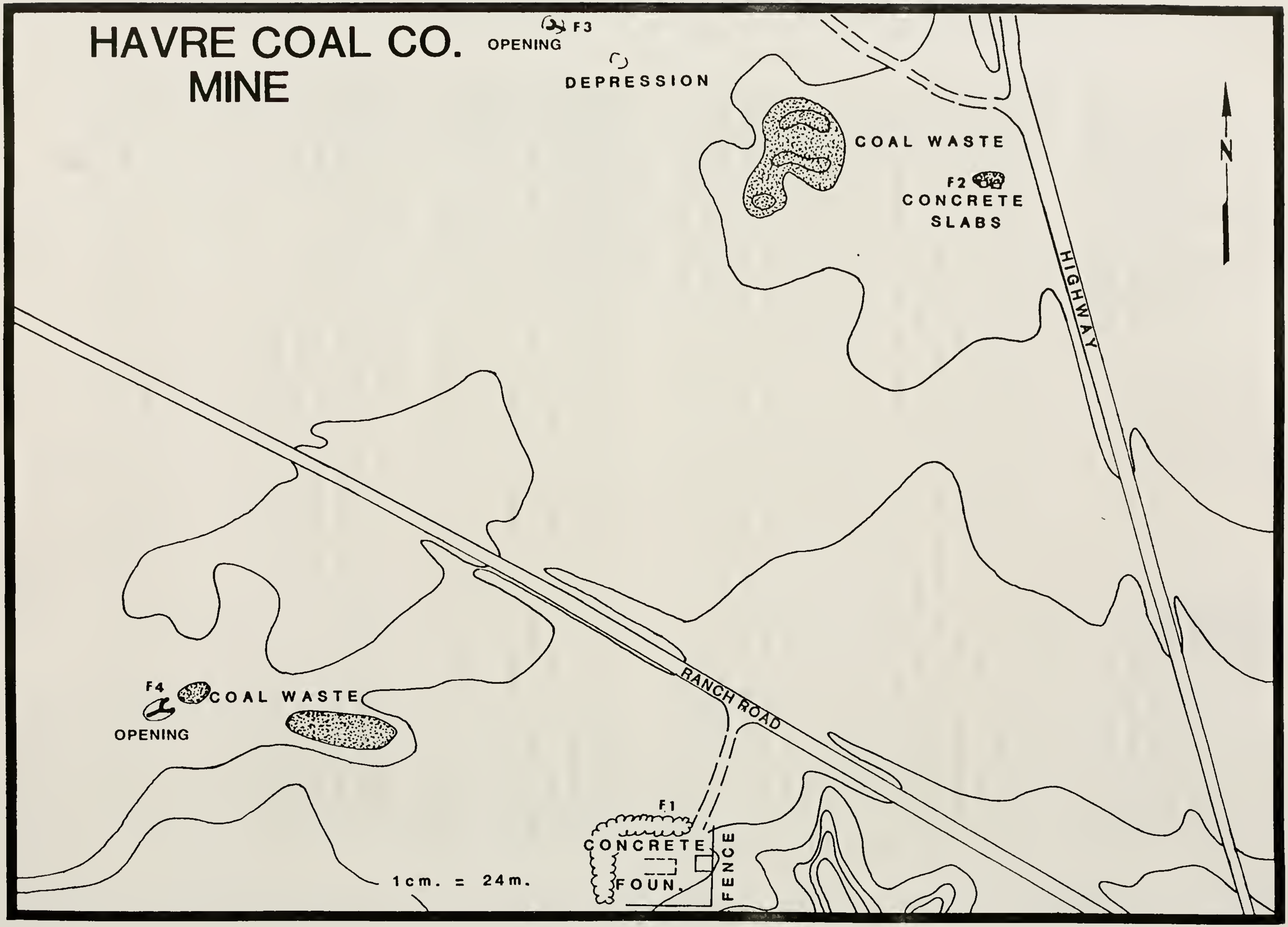
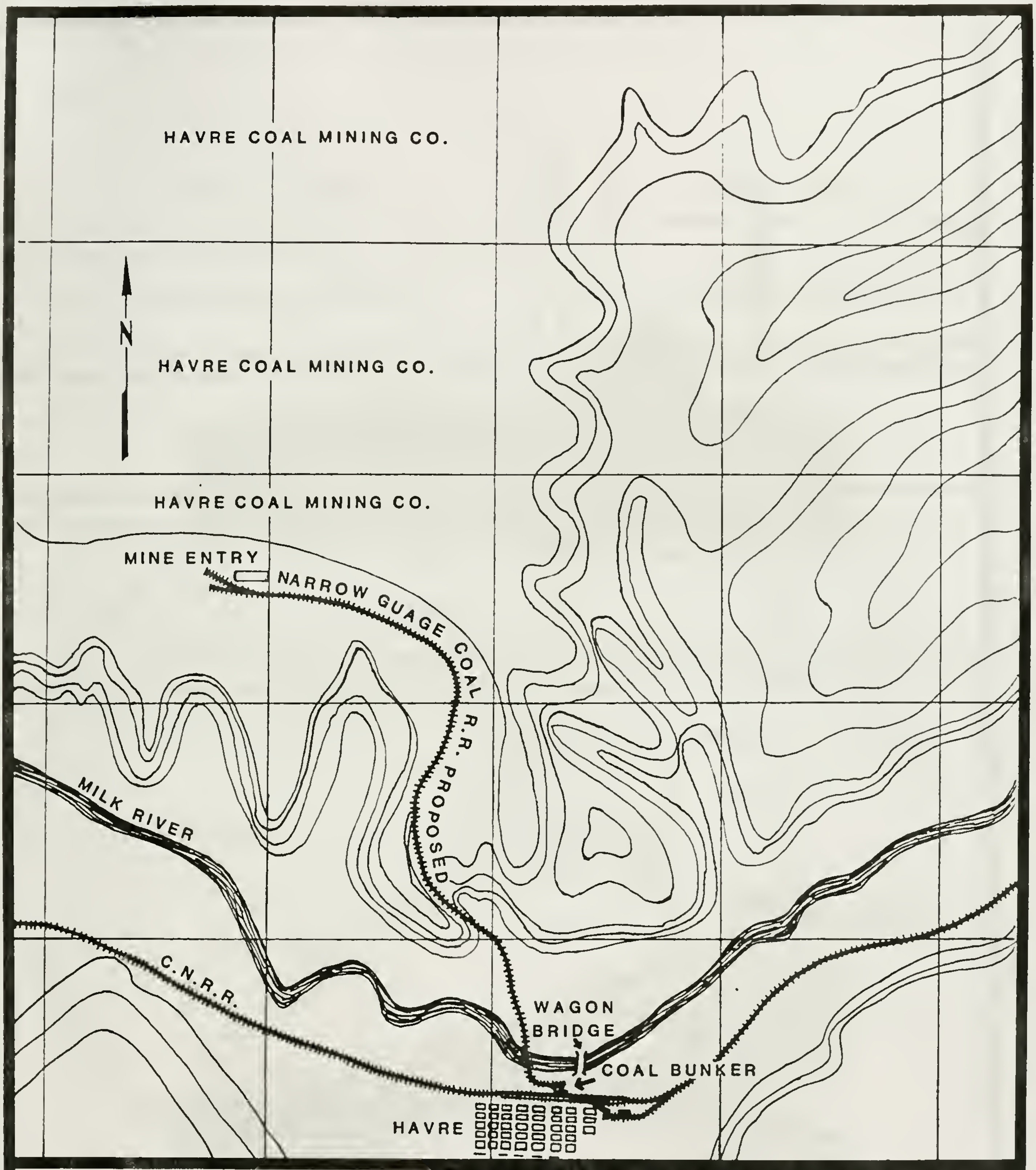


Figure 9. Site map for the Havre Coal Company Mine.



1907 MAP HAVRE COAL CO. MINE LOCATION

(FROM HAVRE HERALD APRIL 19, 1907)

Figure 10.

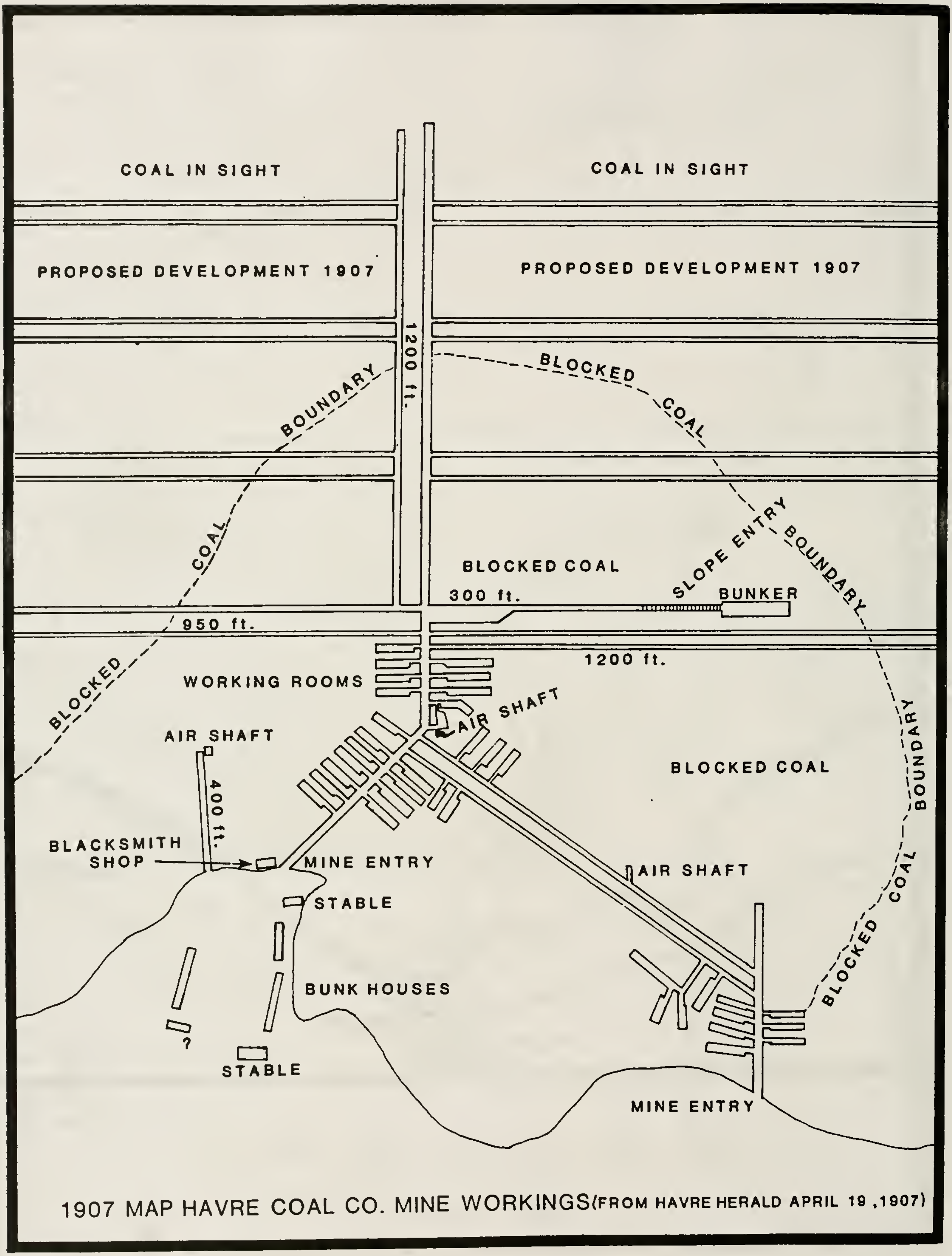

COAL IN SIGHT
COAL IN SIGHT
PROPOSED DEVELOPMENT 1907
PROPOSED DEVELOPMENT 1907
1200 ft.
BOUNDARY
BLOCKED
COAL
COAL
BLOCKED COAL
SLOPE ENTRY
BOUNDARY
300 ft.
BUNKER
950 ft.
1200 ft.
BLOCKED
WORKING ROOMS
AIR SHAFT
AIR SHAFT
BLOCKED COAL
400 ft.
BLACKSMITH SHOP
MINE ENTRY
AIR SHAFT
BOUNDARY
COAL
STABLE
BLOCKED
BUNK HOUSES
?
STABLE
MINE ENTRY
1907 MAP HAVRE COAL CO. MINE WORKINGS(FROM HAVRE HERALD APRIL 19 ,1907)

Figure 11.

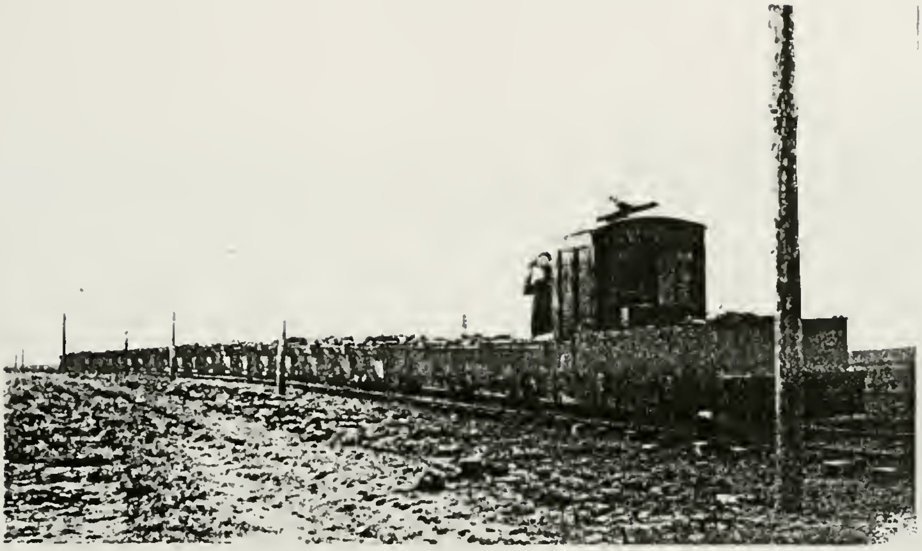


Figure 12. Photo of coal cars being taken from Havre Coal Company mine head by electric tramway (Hill County Bicentennial Commission 1976).

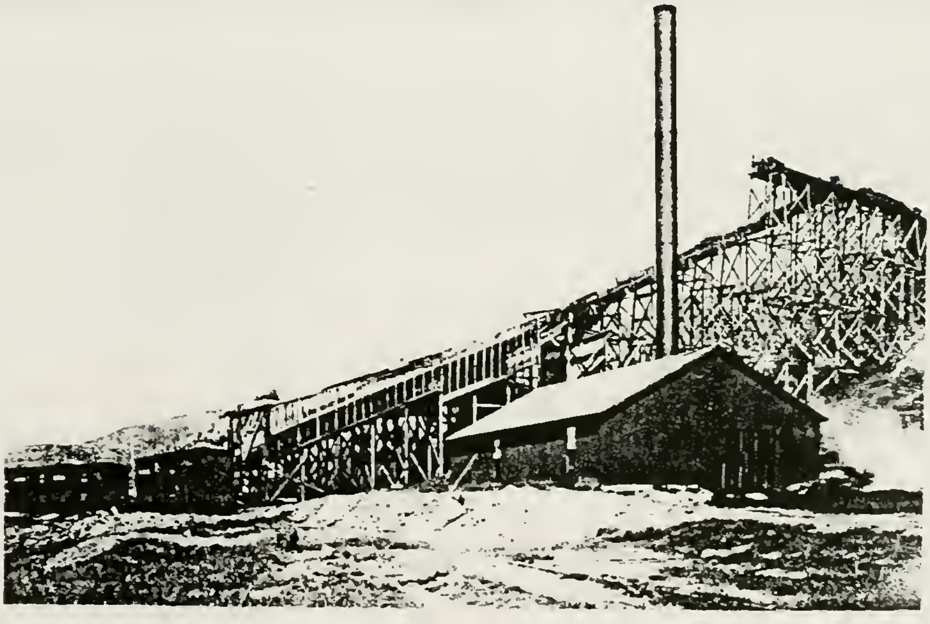


Figure 13. Photo of original Havre Coal Company tipple and electric generating shed (Hill County Bicentennial Commission 1976).

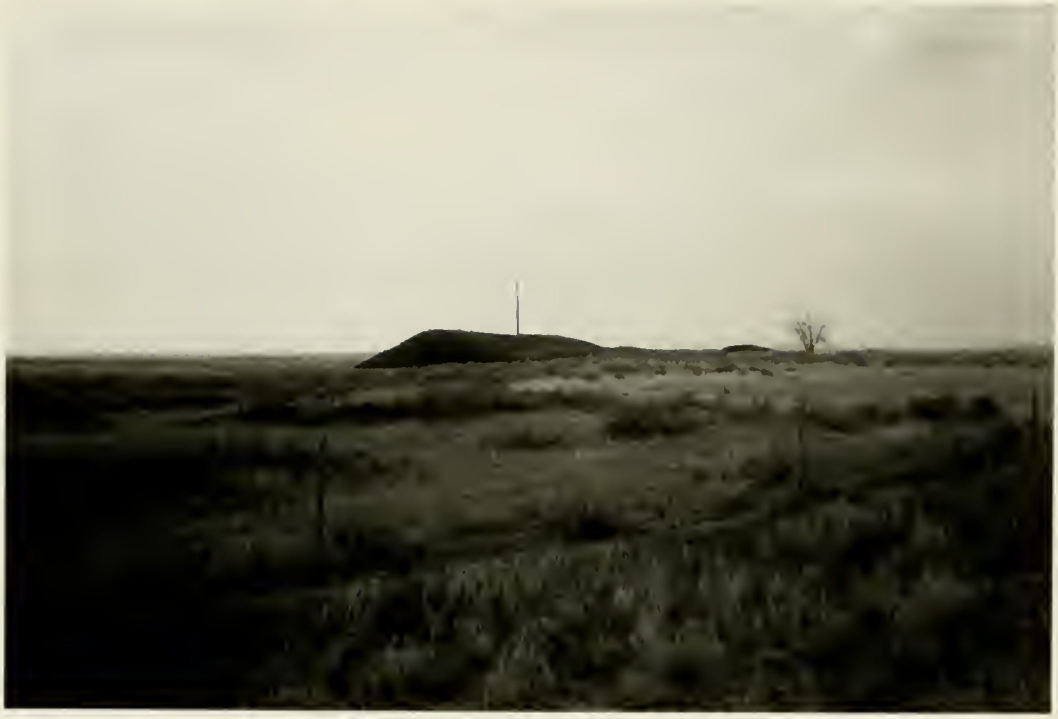


Figure 14. Slack pile at location of mine opening (feature 4) which may have been an air shaft shown on the 1907 mine workings map (Figure 11) as the air shaft at the end of the "400 ft" drift, lower left section of the map (view of photo to southwest).

Site Identification: 24BL195 - The Milk River/Perkins Mines

Location: SW1/4 of section 7 and NE1/4 NW1/4 of section 18, T33N R19E

Area: 58,300 m^2

Elevation: 753 to 777 m

Description: The site (Figure 1) is divided into two sections. The upper (north) section is located on a bench area of rolling grasslands and cultivated fields at the head of a small coulee which runs south into the Milk River. The lower (south) section of the site (Figure 15) is found in this coulee about 800 m south of the upper section. The upper section of the site (Figure 16) consists of the main complex of mine buildings while the lower section contains the main entrance to the mine, a large coal slack dump and the remains of a tipple foundation. Vegetation throughout the site area consists primarily of prairie grasses with patches of sagebrush. There is no perennial surface water in the immediate area.

Structures and Cultural Materials: The lower section of the site (Figure 15) contains the main mine entrance portal. The adit slopes to the north at an approximate 30% angle and has a wood frame covering over the portal (feature 1). A large coal slack dump runs south from the portal and the concrete footings for the tipple are found on the south side of the slack dump feature 2, Figure 17). A second adit entrance (Feature 3) is located to the west of the slack dump and appears to be only a minor exploratory adit. The only other structures near the mine entrance are two small (1.5 x 2 m) concrete powder magazines with metal doors (features 4 and 5, Figure 18).

Due east of the Milk River Mine entrance across the road and at the head of a small north/south running gully are the remnants of the Perkins Mine. Mine. All that remains of the mine's operation are scattered coal waste dumps. There are no structural remains.

One-half mile to the north of the Milk River Mine entrance is the complex of mine structures which formed the nucleus of the mine's operation (Figure 16). Most of the buildings are of comparatively recent origin and since they were still in use up to 1970 they are intact and in good condition. The structures include: a scales/office building (feature 1, Figure 19) which measures 7 x 13 m. The concrete pit for the scales is in front of the building and the scale measures 4 x 10 m. The building is covered with asphalt siding and is of conventional frame construction with a simple gable roof. Feature 2 is a garage measuring 11 x 18 m, constructed of cinder blocks with a flat roof (Figure 20). Two adjoining wood frame garages (feature 3) are located 15 m north of the scales/office building. The west garage measures 6 x 12 m and the east one measures 7 x 8 m. Both have simple gable roofs and they appear to be the oldest structures on the site (Figure 20). The powder magazine (feature 4) is 35 m south of the scales/office building. The simple 1.5 x 1.5 m concrete structure has the date "May 1957" inscribed on its front wall. Feature 5 is a quonset-type structure measuring 8 x 15 m and covered with red asphalt siding (Figure 19). The building appears to have been used as a workshop and for storage. On the north side of the building is what appears to be a concrete cistern (feature 6). A standard type outhouse (feature 7) is a few meters west of the cistern. Feature 8 is 5 x 25 m in size and appears to have been a "dry" for the miners, with lockers, showers and a supplies shed. The structure is built in three segments and, like the quonset building, is covered with red asphalt siding (Figure 21). To the north of the buildings down in the gully is an air shaft (feature 9) with a metal entrance housing measuring 1.1 m wide with the shaft more than 60 m deep (Figure 22).

Other cultural materials observed on the site included: a Sullivan electric engine used in hauling mine cars (feature 10, Figure 23), an old junked auto with wooden spoked wheels which might have been a Model T, junked recent vintage autos and farm machinery, and miscellaneous debris.

Historical Development: The first coal mine on the site was started around 1905 by the Ruhe-Lange Coal Company. By the early part of 1908 the company had constructed a 50 ton tipple at the mine with screens to take out the dust and powdered coal. New bunk houses were completed for the miners and plans were made to construct a narrow-gauge railway from the mine to the Great Northern Railroad tracks at Chinook. The company carried out extensive development work inside the mine, blocking out large bodies of coal while driving the main entry further into the hill. (Chinook Opinion January 16 and February 27, 1908).

In the summer of 1908 the Milk River Coal Company was incorporated with $75,000 in capital stock. Officers in the new company were W. B. Sands, President; Jurgen Kuhr, Vice President; U.S.G. Sharp, Treasurer; and R. E. O'Keefe, Superintendent while H. G. O'Hanion and Theo. D. Hensen were made directors. The company then bought out the Ruhe-Lange holdings and undertook further development of the property. A stock issue worth $12,000 was placed on sale to raise funds to build the tramway from the mine to the railroad at Chinook. At first the tramway was to be operated by horses but plans were to build an electric plant in town which would furnish power to the tramway and the mine. Plans were also made to construct a tipple at Chinook which would supply fuel to the power plant. Exploration work carried out a mile north of the mine entrance indicated reserves which would allow the mine to produce from 100 to 150 tons per day (Chinook Opinion July 23, 1908, Havre Herald August 5, 1908).

Following this initial development, the mine was taken over by Lauren and Gaylord Sargent who continued to operate the mine for most of its existence. Prior to World War II the mine facilities were located at the mine entrance and at the railhead in Chinook. Shortly after the war a new section of the mine was opened and buildings were constructed at the upper site location. The mine was a fairly steady producer of a good quality coal on a modest scale until it finally closed in 1970 (Pepperberg 1910, Sargent 1984, Elias 1984).

The Perkins Mine, which was located to the east of the Milk River Mine, was a relatively late development. It was started around 1932 by Spencer Perkins. The mine was of moderate size which sold to the local domestic market and employed an average of 15 to 20 men. The mine was reported to have been well equipped and was the first mine in the area to use a cutting machine. However, problems with smoldering internal fires caused the mine to be closed in 1945 (Elias 1984; Kaufman 1984). Only scattered coal waste dumps remain of the mine site.

Evaluation: The Perkins Mine has been all but eradicated with no physical remains other than coal waste dumps. The Milk River Mine retains a fair degree of physical integrity. The structures on the site are in good condition but have no particular design or architectural significance and are of fairly recent origin (c. 1940s and 1950s). It is unlikely that further work on the site will yield additional information.

National Register Statement: Although most of the remaining structures at the Milk River Mine are less than 50 years old, the mine itself covers a long historical time period which is unusual for a coal mine. The Milk River Mine was also a significant factor in the local economy. For these reasons the site is potentially eligible for listing on the National Register of Historic Places under criteria A and C.

Management Recommendations: The Montana Department of State Lands plans to either remove or reclaim the coal waste dumps and close any mine openings. The waste dumps are a source of water pollution. The adit opening is an obvious safety hazard while the air shaft is extremely dangerous. The DSL plans to plug the air shaft with a concrete cone and close the adit portal and either reclaim or remove the coal waste dumps. The reclamation work will not impact any of the structures or alter the basic site integrity. It is recommended that the Department's plans should be allowed to proceed on schedule. The site has been examined, recorded, mapped and photographed and no further work is recommended.

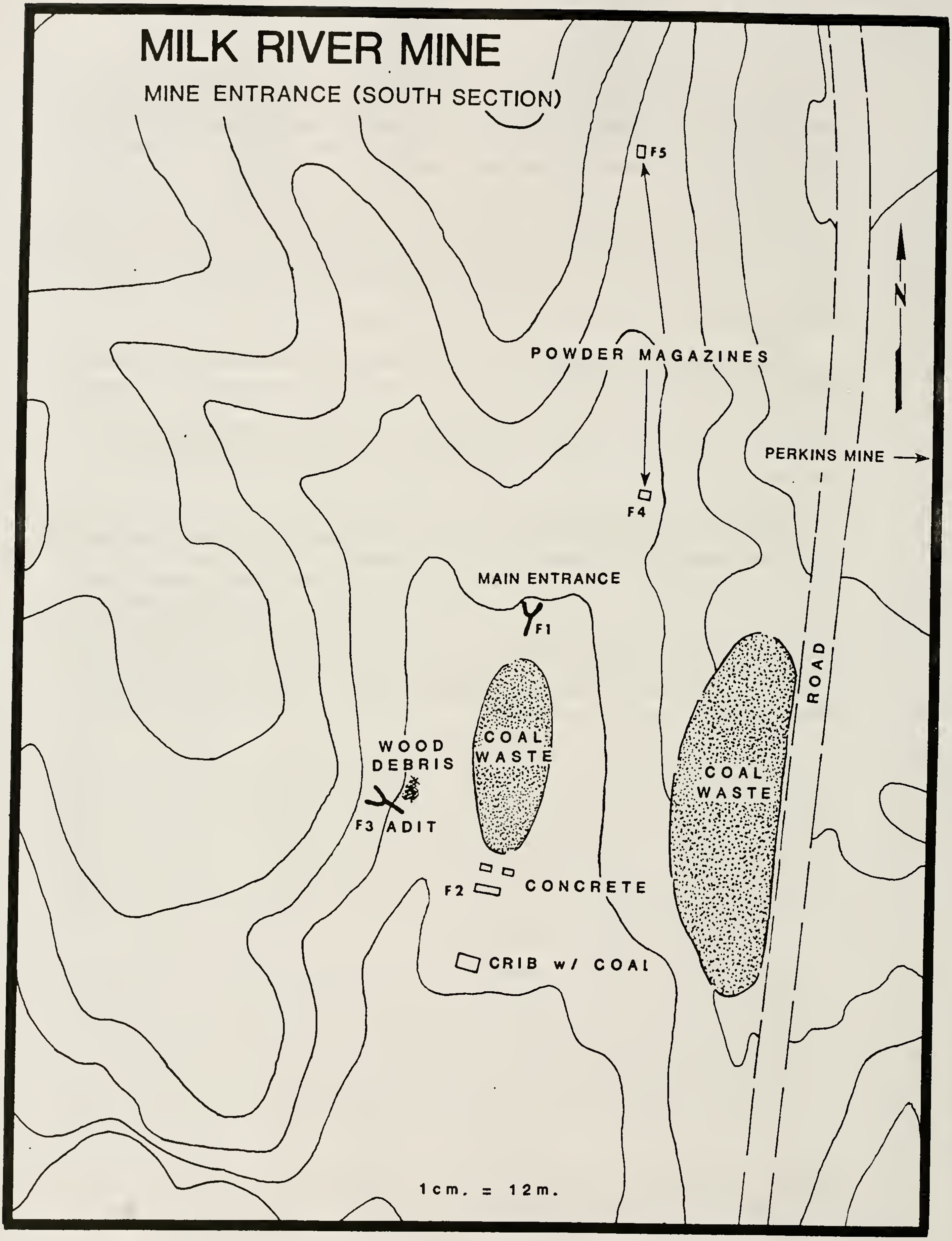


Figure 15. Site map for the Milk River Mine.

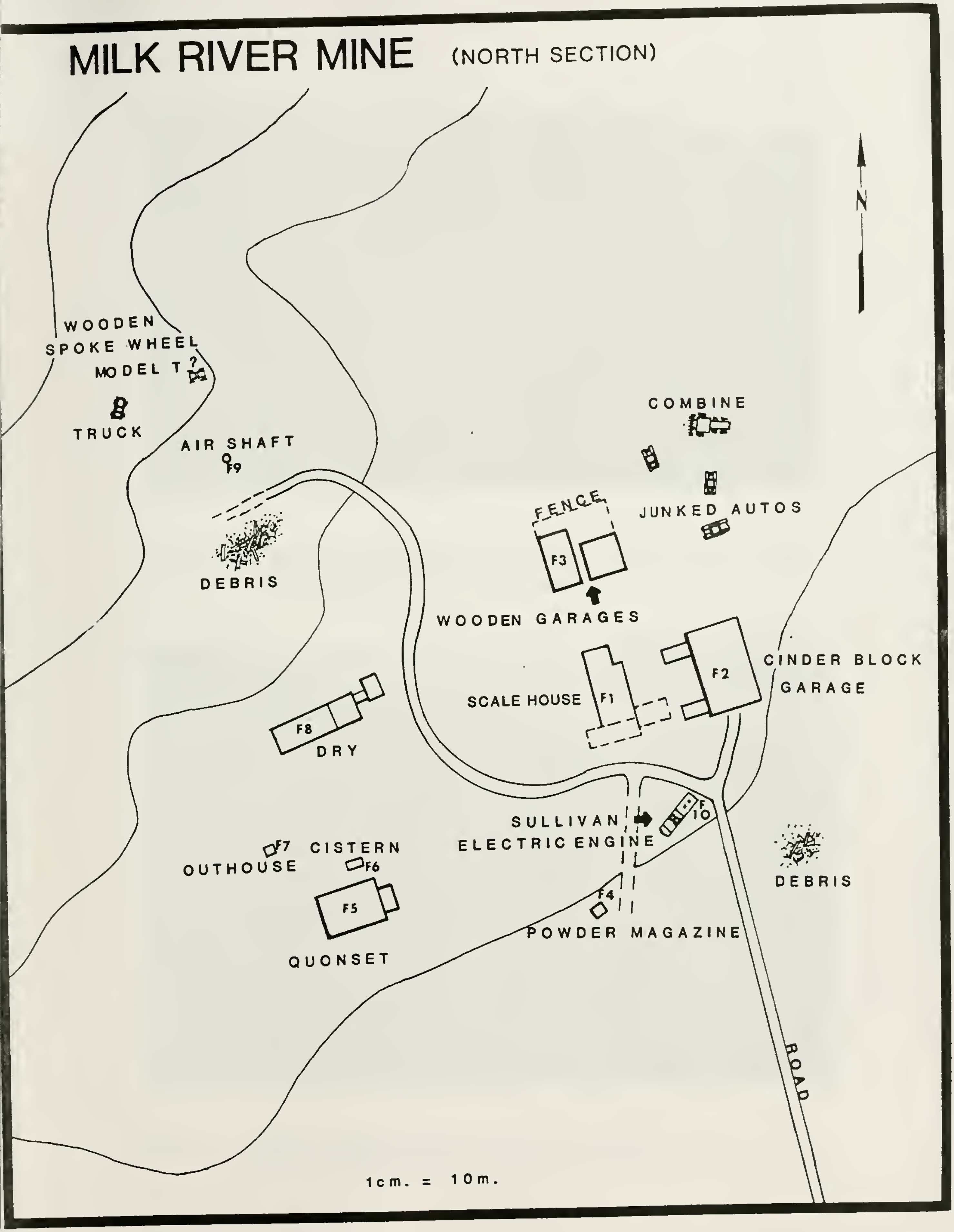


Figure 16. Site map for the Milk River Mine.

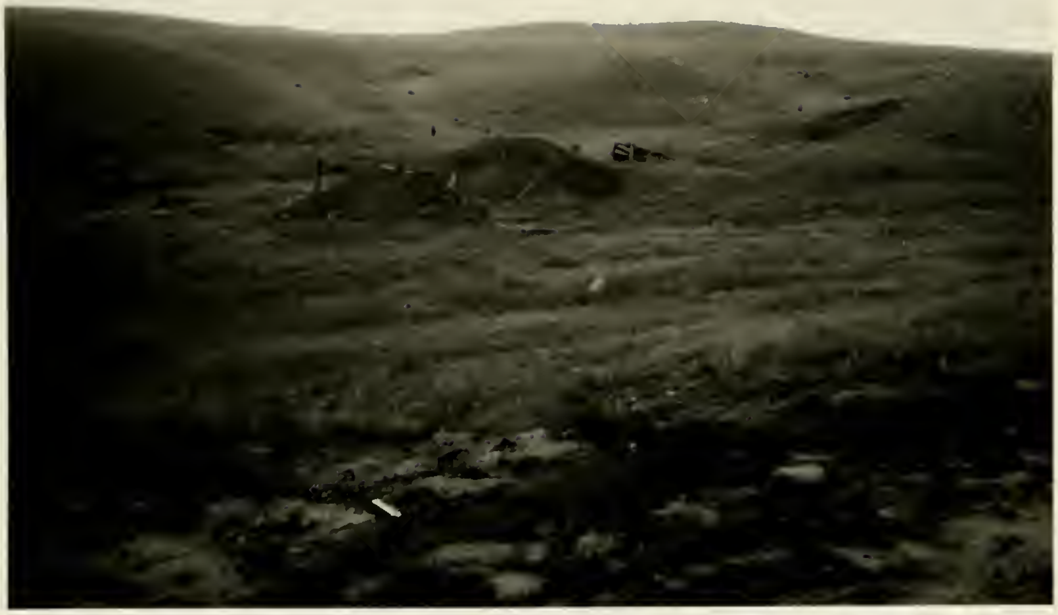


Figure 17. Mine entrance and slack pile at lower section of the Milk River Mine (view to west).

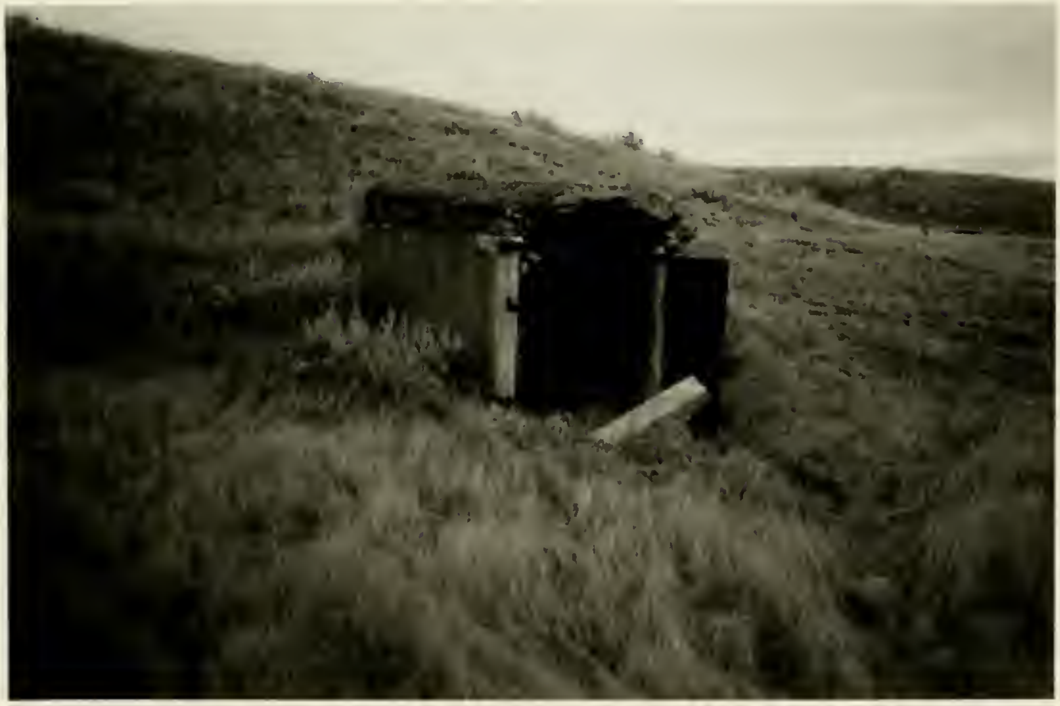


Figure 18. Powder magazine (Feature 4) at the lower section of the Milk River Mine (view to southeast).

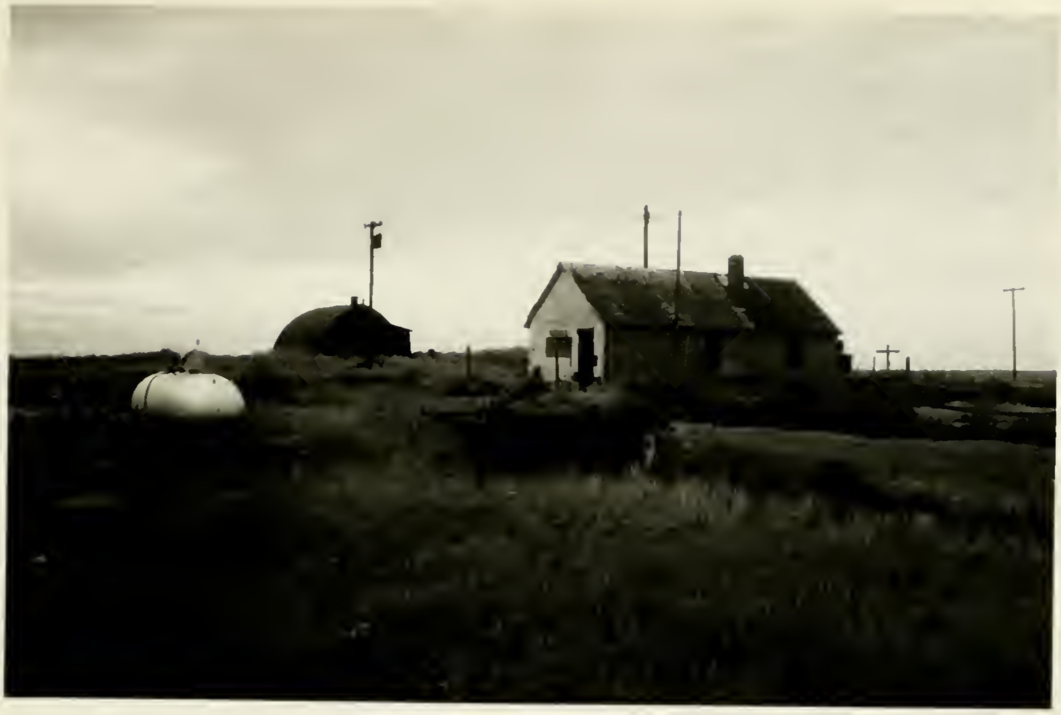


Figure 19. Scales/office building and quonset-type building in background at the Milk River Mine (view to northwest).

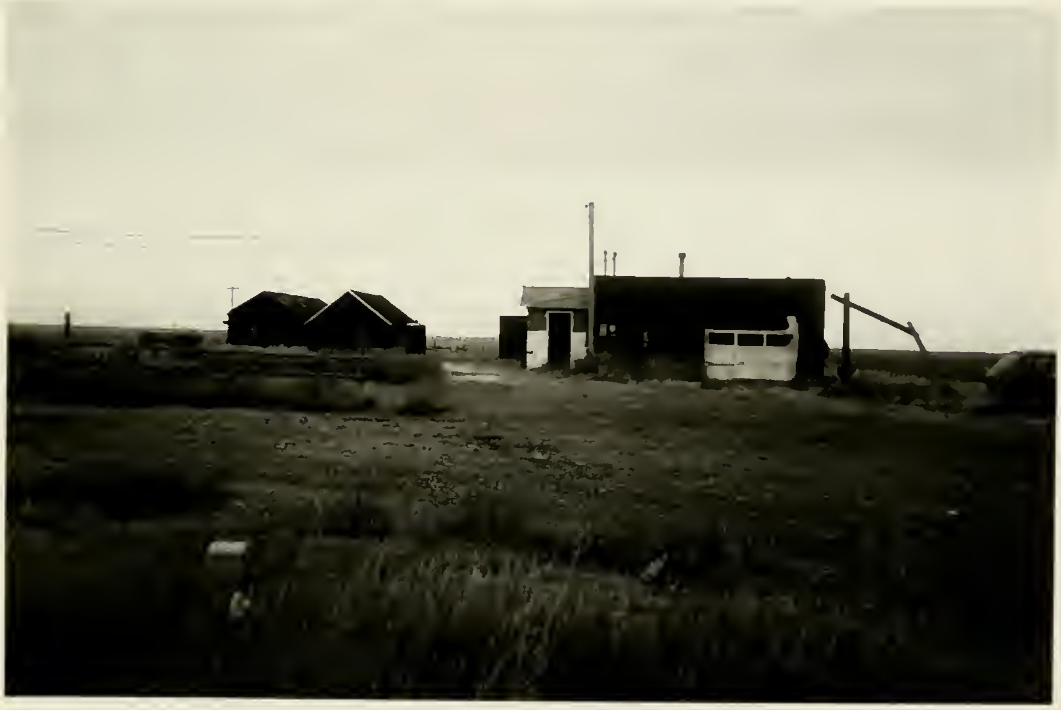


Figure 20. Cinder block garage and wood garages (left background) at the Milk River Mine (view to northwest).

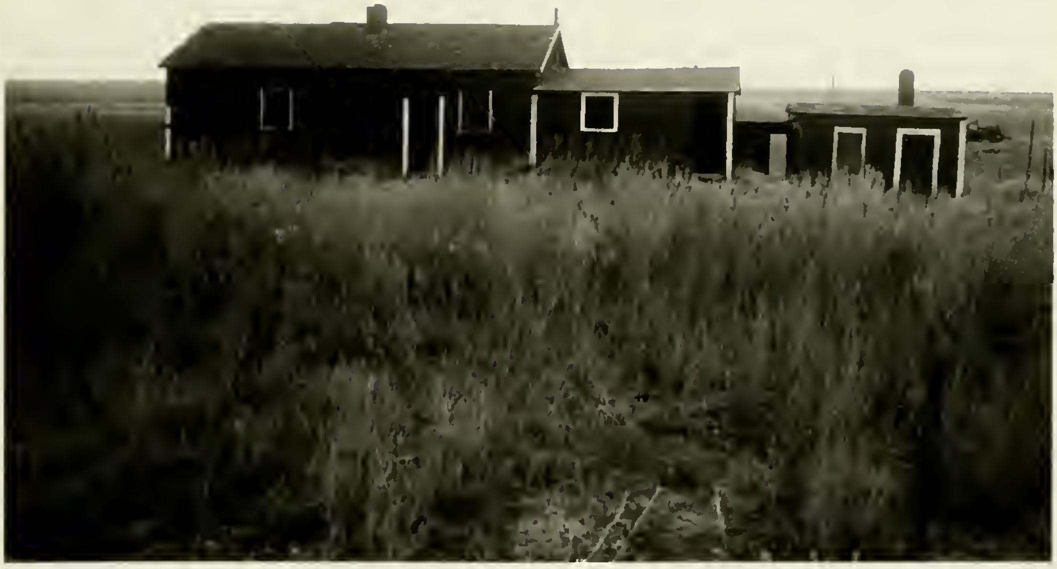


Figure 21. The "dry" (Feature 8) at the Milk River Mine (view to north).

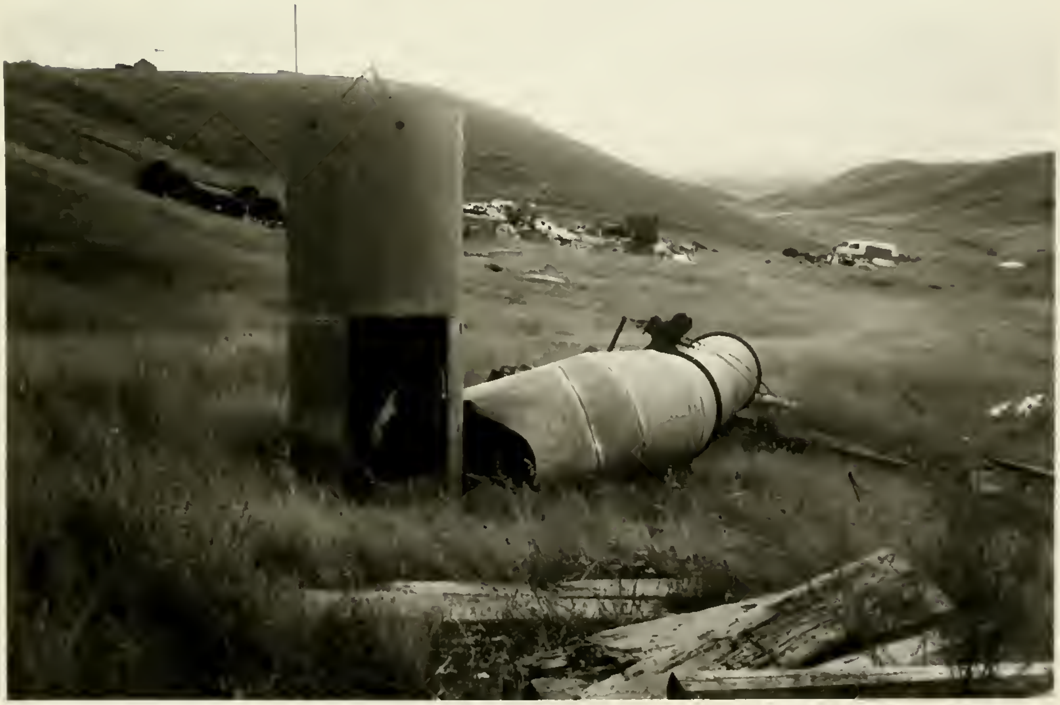


Figure 22. The air shaft housing (Feature 9) at the Milk River Mine (view to west).

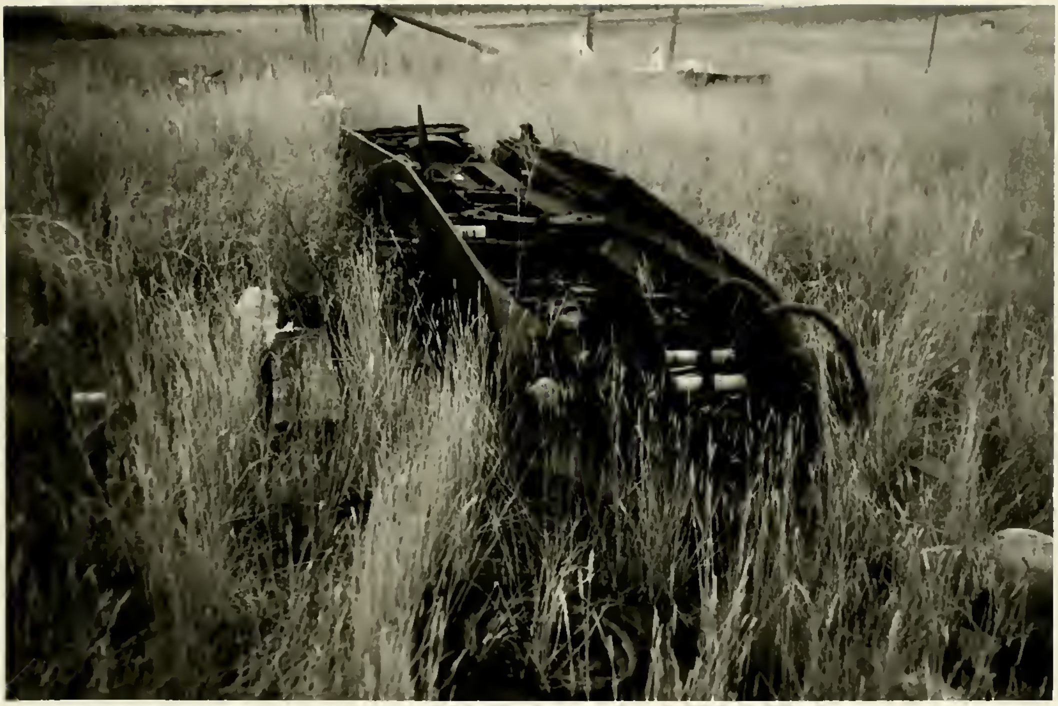


Figure 23. Sullivan electric engine (feature 10) at the Milk River Mine (view to south).

Site Identification: 24BL196 - Cummings Mine

Location: SW1/4 NW1/4 SE1/4 section 27, T32N R20E

Area: 8,000 m^2

Elevation: 829 m

Description: The mine site is located at the base of the south-facing hill which forms the northern edge of a small coulee (Figure 1 and 24). A small reservoir is just south of the mine in the coulee. South of the reservoir on the open bench land just above the coulee are the remains of a homestead. A perennial stream flows through the coulee. Vegetation on consists of prairie grasses, patches of sagebrush, *Rhus* in the coulee and a single cottonwood tree on the east bank of the reservoir.

Structures and Cultural Materials: The only physical remains of the coal mine are two thin scatters of coal waste (Note: the east waste may be a natural outcrop of coal) and a vertical opening into the mine workings. The adit portal was probably located at feature 1 waste area (Figure 25). The homestead (Figure 26) consists of: a collapsed frame structure (feature 3) of unknown dimensions and use; a 9 x 12 m frame house which sits on a concrete foundation, has a hip-style roof covered with asphalt shingles, central heating, modern plumbing and electricity and clapboard siding (feature 4); a small chicken coop (feature 5); the foundation for an outhouse (feature 6); a stone wall (feature 7) of unknown purpose; a stone and concrete foundation measuring 7 x 8 m (feature 8); a similar foundation (feature 9) measuring 6 x 8 m; and a wood frame shed (feature 10) measuring 4 x 5 m. Other cultural materials observed on the site were a 1930s era junked auto of unknown make, a wheeled-plow, lumber debris and a scatter of fairly recent trash including a toaster, tricycle parts, cans and bottles.

Historical Development: Little information was available on this site. The only documented mine in the vicinity was the Kerr Mine located about three miles west of the site in Sixmile Coulee in the SW1/4 of section 30. The coal of the Kerr Mine was sampled in 1908 and the report stated that the "only coal of importance within the township outcrops along the Sixmile Coulee" (Pepperberg 1910:100).

It was reported that the mine was probably established around 1900 and pre-dates the homestead. It is not known who first started the mine and it appears to have been, at best, only a small operation which probably furnished coal for domestic use for nearby ranchers and farmers (Willman 1984). The patent records show that Albert R. Cummings obtained a patent on the land on which the mine is located as a coal entry (#574136) on March 28, 1917 which would seem to indicate that Cummings operated the mine at this time. Cummings acquired additional land under homestead entry patent #624785 on April 11, 1918. The stone wall and the two stone and concrete foundations (Features 7, 8 and 9) appear to date from this period or earlier. The house, shed and chicken coop are probably from the 1930s or 1940s.

Evaluation: Virtually nothing remains of the coal mine except for the thin scatter of coal waste. The mine adit portal is no longer apparent and the vertical opening into the mine workings does not appear to have been a constructed air shaft but rather seems to be the result of collapsing underground workings.

The remnants of the original homestead (features 7, 8 and 9) consist only of foundations with no standing structural remains. The house, chicken coop and shed (features 4, 5 and 10), the only standing structures on the site, are in good condition but are of relatively recent construction and exhibit no architectural or historical significance. Further work on the site would produce no additional significant information.

National Register Statement: The physical integrity of the mine and original homestead have been destroyed. The intact portion of the site is of recent origin and is undistinguished either architecturally or historically. The site is not recommended as eligible for listing on the National Register of Historic Places.

Management Recommendations: The Montana Department of State Lands plans to either remove or reclaim the coal waste and close the mine opening. The adit opening is an serious safety hazard. The Department's plans will not impact any of the structures on the site or impair the basic site integrity. It is recommended that the Department's plans should be allowed to proceed on schedule. The site has been examined, recorded, mapped and photographed and no further work is recommended.

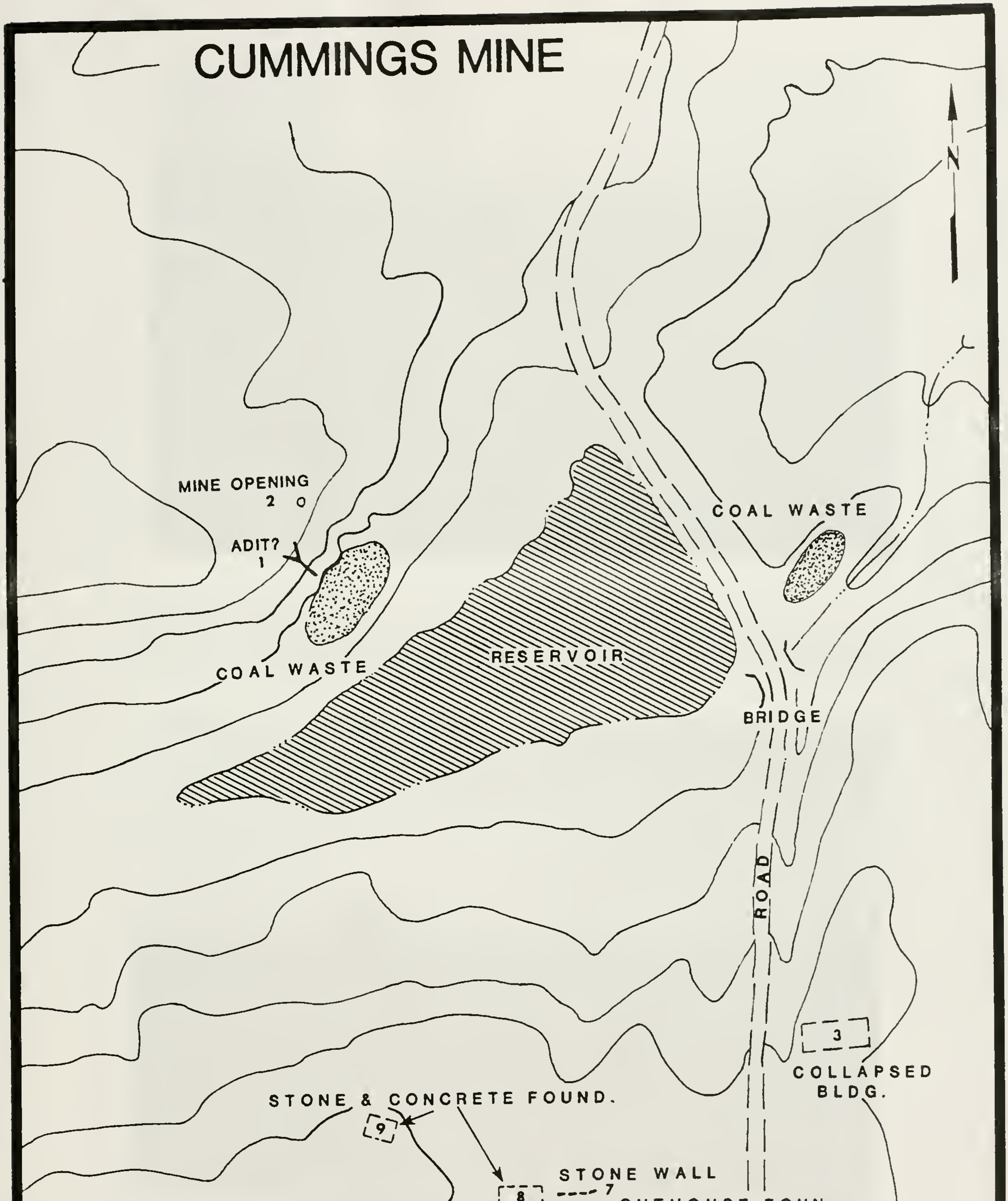


Figure 24. Site map for the Cummings Mine.

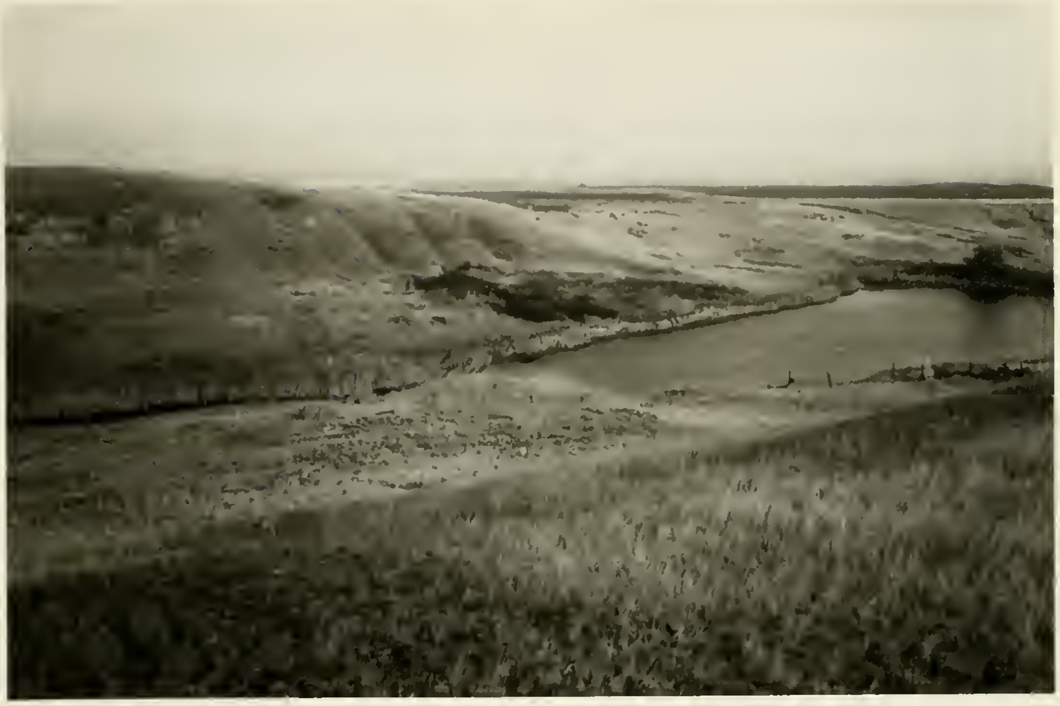


Figure 25. View of the site of the Cummings Mine at the base of the hill on north side of reservoir (view to northeast).

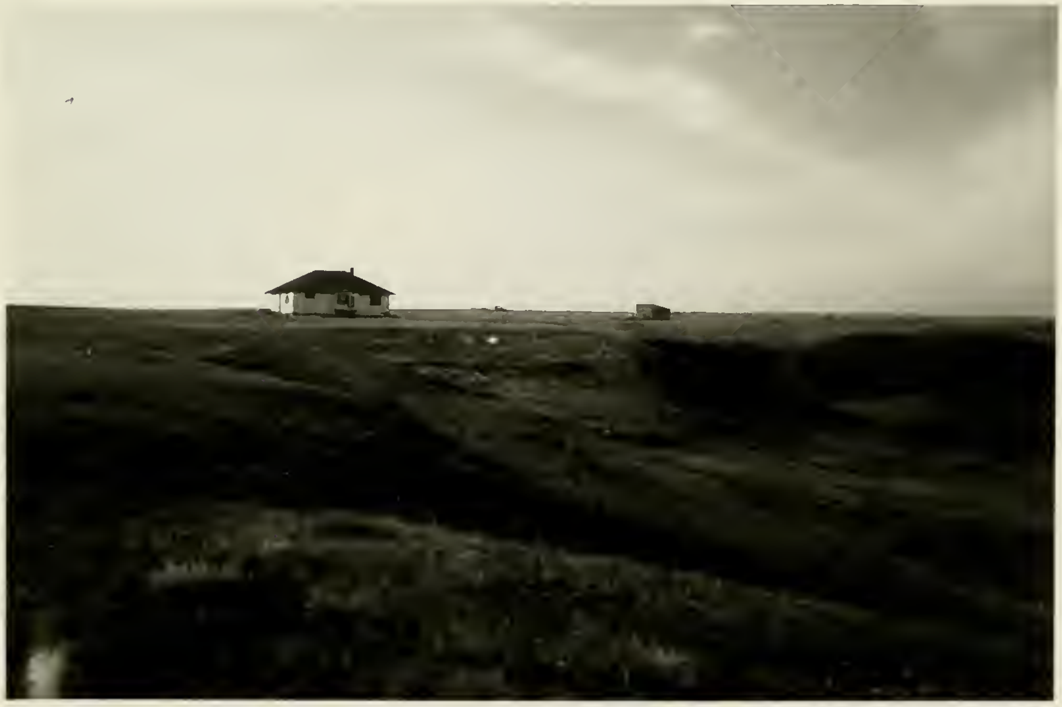


Figure 26. View of the homestead at the Cummings Mine site (looking south).

Site Identification: 24BL197 - Burns Mine

Location: SW1/4 NW1/4 and NW1/4 SW1/4 of the NW1/4 of section 11, T32N R18E

Area: 14,700 m^2

Elevation: 808 m

Description: The site is located in a small northeast/southwest trending coulee with rolling grasslands to the east and west of the coulee (Figures 1 25). The site consists of a coal slack dump, adit opening and a vent hole located on the west side of the coulee. Water in the coulee is from seasonal runoff.

Structures and Cultural Materials: The most prominent remains of the mining operation is the coal slack dump in the coulee in front of the main adit portal (Figure 26). No standing structural remains are on the site. All that is left of the tipple is a scatter of wood beams and other lumber debris. The drum from a winch, some auto parts and a truck frame were also observed near the slack dump. On the bench area just above the adit portal is a vertical air shaft 1 m wide and 5 m deep. To the north and south of the air shaft are two depressions caused by the mine working collapsing underneath. Down the coulee (to the north) on the east side were four locations of surface disturbance which may have been small prospect adits.

Historic Development: Almost no information was available on this small wagon mine. The only documented reference to the mine is a brief mention in Pepperberg's 1908 report on the Milk River Coal Field. He refers to it as the Burns Prospect and states that the coal seam was "complicated by numerous faults, large and small, and ... the coal crops cannot be traced for any great distance" (Pepperberg 1910: 97). The patent records show that the land on which the site is located was patented to Elzy F. Triplitt as a homestead entry patent (#554822) on November 17, 1916. It is not known if Triplitt worked the mine although from the appearance of the site it is possible the mine was worked during this period and perhaps into the 1920s. The mine appears to have been a small wagon mine similar to many others which existed throughout this area during the 1910s and 1920s.

Evaluation: No structural remains exist on the site except for the coal slack dump and the open adit portal. Even when in operation the mine facilities probably consisted of little more than a small tipple and perhaps an office shack. The site is not of significant historical interest and further work on the site would not reveal any additional information.

National Register Statement: The physical integrity of the site has been destroyed. The site is typical of small wagon mine operations and has no particular historic interest and no potential for further information. The site is not recommended as eligible for listing on the National Register of Historic Places.

Management Recommendations: The Montana Department of State Lands plans to either remove or reclaim the coal waste dumps and close any mine openings. The waste dumps are a source of water pollution and the adit opening and vent hole are obvious safety hazards. It is recommended that the Department's reclamation plans be allowed to proceed on schedule. The site has been examined, recorded, mapped and photographed and no further work is recommended.

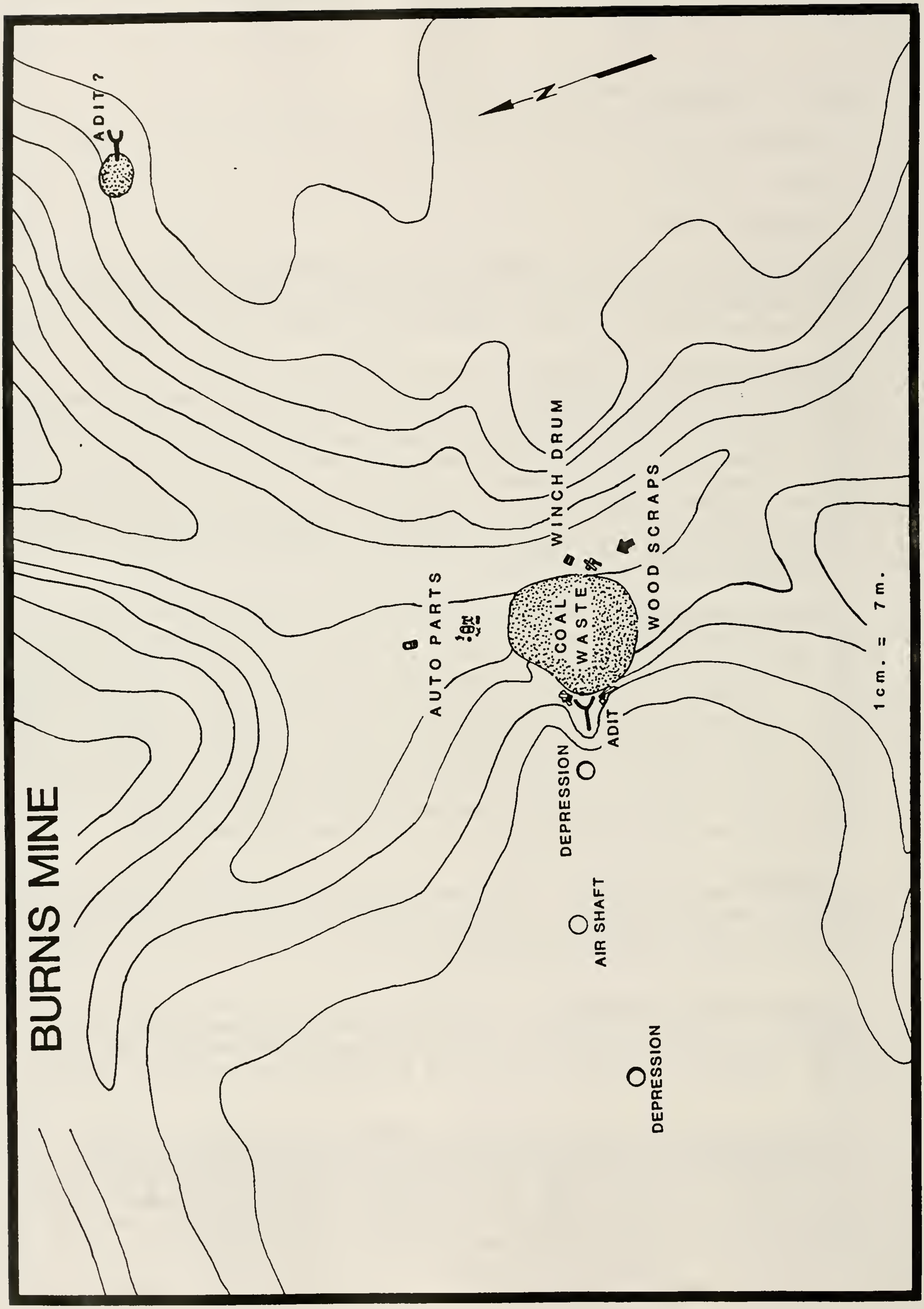


Figure 27. Site map for the Burns Mine.

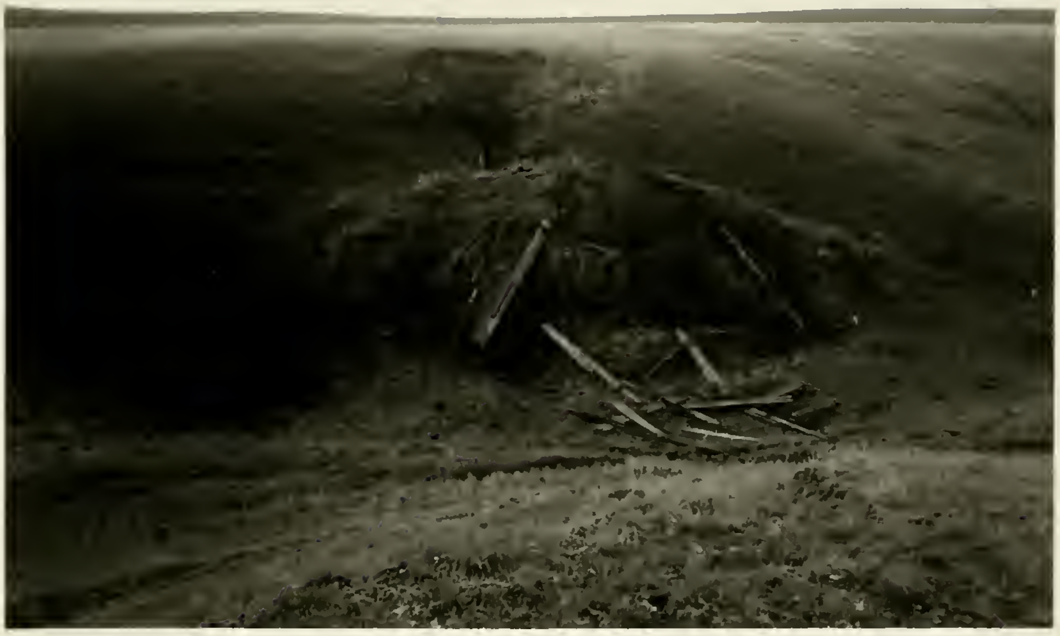


Figure 28. Slack pile and mine adit at the Burns Mine (view to west).

Site Identification: 24BL198 - Rader/Dehl/Redekop Mines

Location: W1/2 section 5, T31N R19E

Area: 85,000 m^2

Elevation: 890 m

Description: The site area is located on the lower part of a west-facing hill to the east of a tributary of Black Coulee Creek (Figure 1). Adits have been driven into the base of the hill and the area is covered with numerous coal waste dumps. An air shaft is near the top of the hill and drops vertically to the mine workings. The Rader Mine was located at the north half of the site area (Figure 29) while the Dehl Mine was located on the south half (Figure 30).

Structures and Cultural Materials: Although there are no standing structures remaining on the mine site, there is considerable debris and surface disturbance from the mining operation. Four adit portals were observed and extensive coal waste dumps are scattered over the site area. On the coal slack dumps in front of the adits at the Rader Mine are the wood posts marking the remnants of small tipples. Six junked mine cars are also scattered near the adit portals (Figure 31). To the southeast of the adits about 150 m is a 3 x 3 m open air shaft which drops vertically into the mine workings (Figure 32). The shaft opening is surrounded by five mine cars and adjacent to the shaft on the west side are the remains of a windmill which may have been used to pump water from the mine. Also observed on the site near the Rader adits was lumber debris, a small forge with a hand cranked blower, a junked 1930s era Chevrolet with 1955 Montana license plates, and a Ford and Plymouth from the 1960s.

All that remains of the Dehl Mine are two adit portals (Figure 30).

Historical Development: The Chinook Opinion on May 8, 1890 mentions that the "Ross Bros. of Butte" were working the "Black Coulee" coal banks which were situated about 10 miles south of Chinook. The next month on July 26 the newspaper had an article on the Black Coulee Mine owned by A. S. Lohman, Clemmens Bartzen and Alex Ross. On July 30, 1891 the paper discussed the development of a Black Coulee Mine by C. A. Ness and J. S. Roberts of Butte and Boston Mining and Milling Company of Butte. The firm was said to be planning tests of the coal at Butte for possible use in the smelters (The Chinook Opinion May 8, 1890, July 26, 1890, July 30, 1891).

None of these articles gave specific locations for the mines so it is not known if they were in the immediate vicinity of the Rader/Dehl/Redekop mines but they do indicate that coal development in this area was begun at an early date shortly after the founding of the town of Chinook. On November 21, 1901 The Chinook Opinion carried an advertisement for "Henry Raeder coal - 9 miles south of town - $2.50 a ton at the mine and $4.50 delivered". Again, no specific location was given for the mine so it is not known if the mine was on the site area (The Chinook Opinion November 21, 1901).

Russel Sorensen, an area rancher who lives at the site, reported that the first mine opened on the site area was started by Henry Rader around 1908 or 1909. Leon Pepperberg, in his 1909 USGS report, discusses a prospect opened by Henry Rader east of the current site area in the SW1/4 of the SE1/4 of section 5.

The report also states that Rader opened five other prospects on the west side of the coulee but all were abandoned because of flooding problems. The Bureau of Mines report on Montana coals issued in 1932 adds to the confusion by discussing a "Roder [sic] Mine" and a "Roder Prospect" in the area of the site and also the "Raeder Mine" at an unspecified location in section 5. It appears most likely that Henry Rader ("Raeder"? "Roder"? [or even "Radar" which is the spelling given on the BLM land use map for the Havre area]) opened the first mine on the site area about 1908 and continued to operate it until the mid 1930s. On June 4, 1915 the land on which the site is located was patented to Reinhold H. Rader under homestead entry patent #476469. It is unknown if Reinhold Rader was a relative or if the middle initial stood for "Henry" and this was the same Henry Rader. (One should also consider that "Henry Rader" and "Henry "Raeder" may have been different individuals although this seems unlikely.) (Sorensen 1984; Pepperberg 1909; Turner et al. 1932; BLM Land Records).

"Henry Raeder" is also mentioned in an article in The Chinook Opinion for June 10, 1909 for causing a brief local gold fever when he reported what appeared to be gold bearing rock in a coal mine he was working on the bench of Chinook. The rock was most likely a pyrite since the gold and/or coal mine was never mentioned again (The Chinook Opinion June 10, 1909).

During the 1910s Lee Dehl opened a mine adjacent to the south side of Rader's mine. This land was patented to Dehl's wife, Nellie M. Dehl (formerly "Nellie M. Light") as a homestead entry patent #592437 on January 13, 1915. It was reported that Dehl and Rader were often in conflict over the dividing line between the two mines which were so close to each other that blasting in one mine would sometimes shake down coal in the other. The problem was ended in the mid 1930s when both mines were taken over by John Radekop who joined the two and operated them as a single mine. The mine continued as a small but steady producer in spite of constant water problems which required almost continuous pumping in order to keep the mine dry. The mine finally closed during the 1960s (Sorensen 1984).

Evaluation: Little remains of the mining facilities other than coal waste dumps, the adit portals and the air shaft. There are no standing structures and only foundation posts remain of the tipples. It is unlikely that further work on the site would reveal any additional information on the mining operation.

National Register Statement: The physical integrity of the site has been destroyed and therefore the site is not recommended as eligible for listing on the National Register of Historic Places.

Management Recommendations: The Montana Department of State Lands plans to either remove or reclaim the coal waste dumps and close any mine openings. The waste dumps are a source of water pollution to Black Coulee. The adit portals and especially the vertical air shaft are serious safety hazards. It is recommended that the Department's plans should be allowed to proceed on schedule. The site has been examined, recorded, mapped and photographed and no further work is recommended.

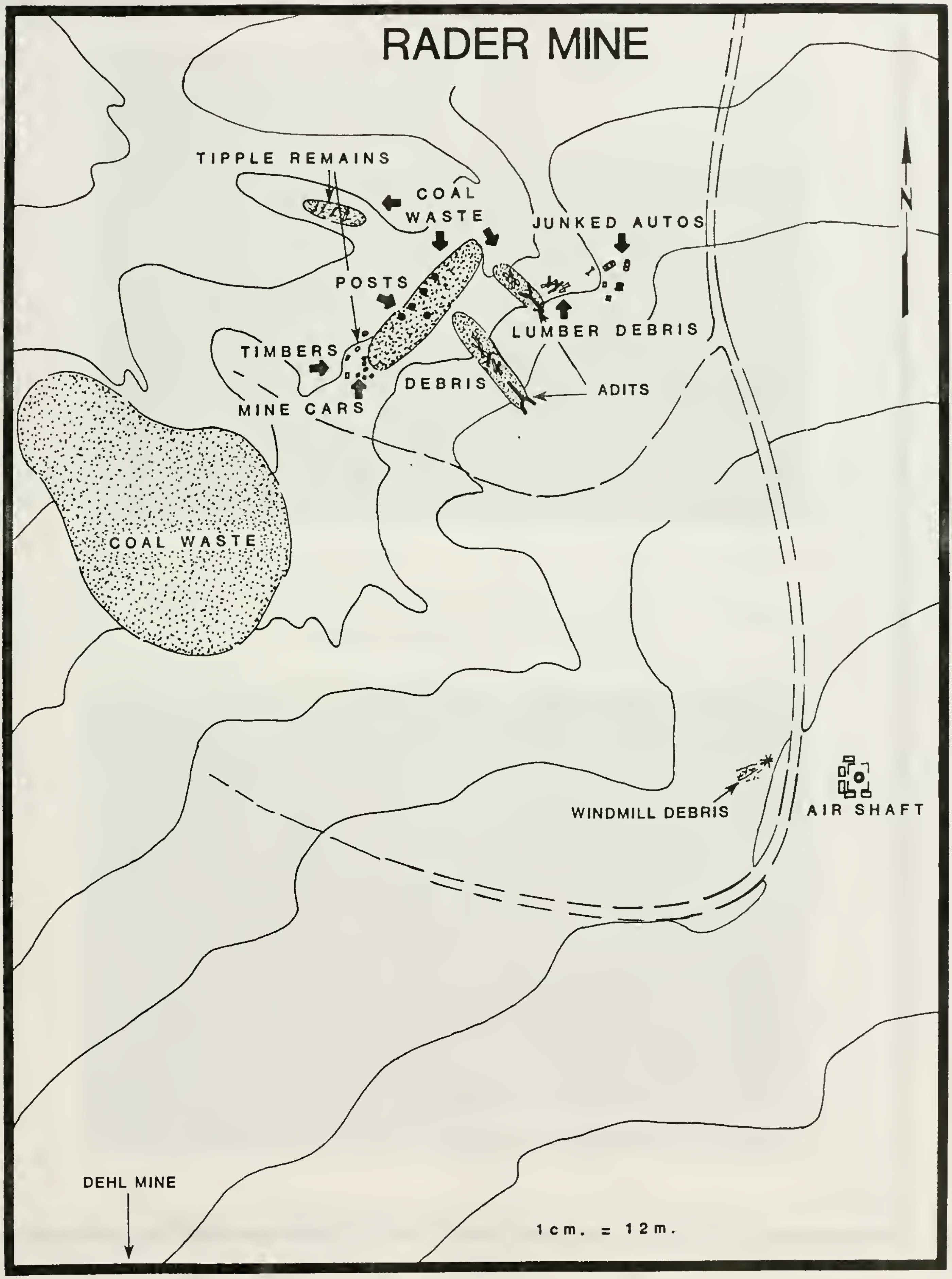


Figure 29. Site map for the Rader Mine.

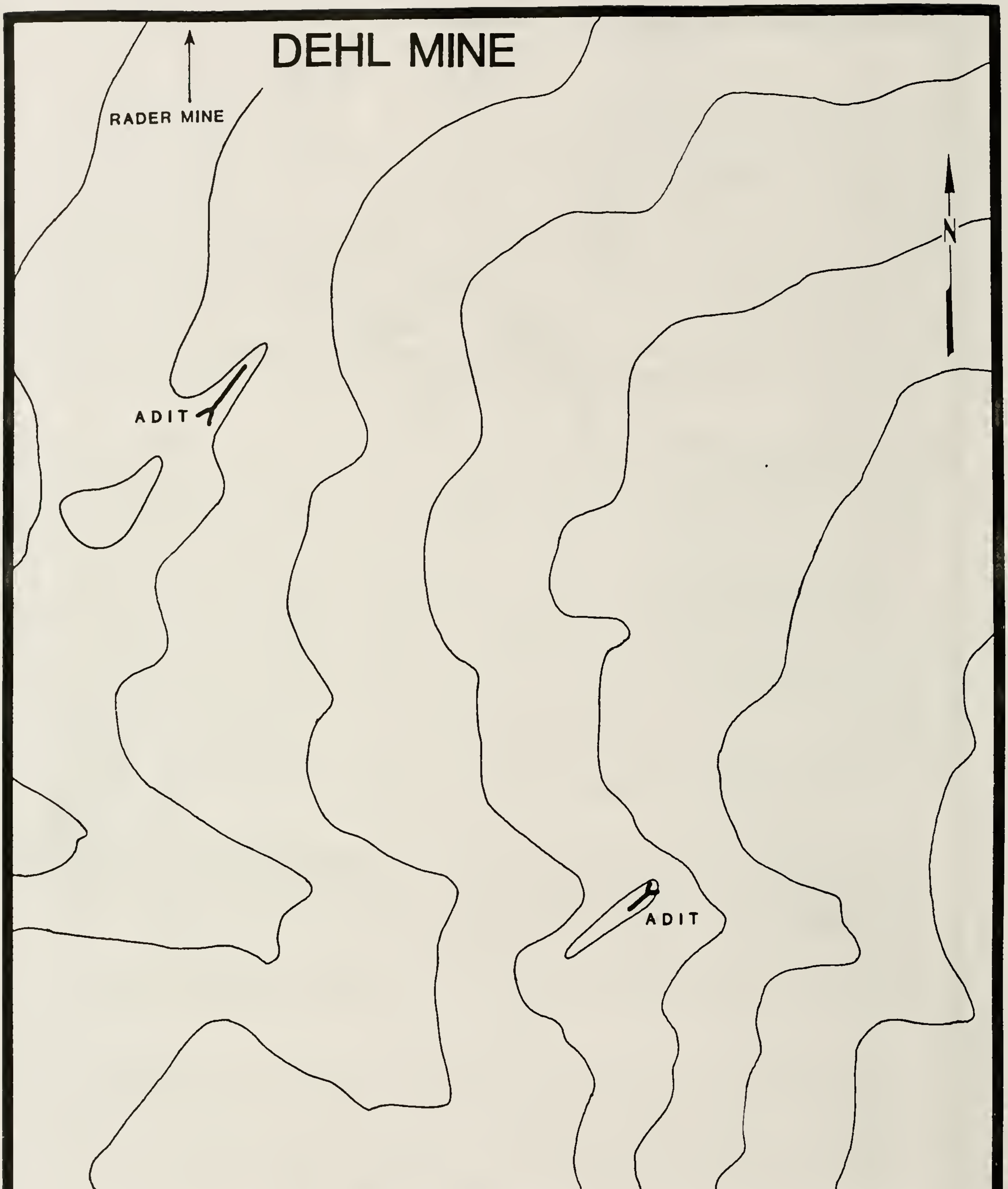


Figure 30. Site map for the Dehl Mine.

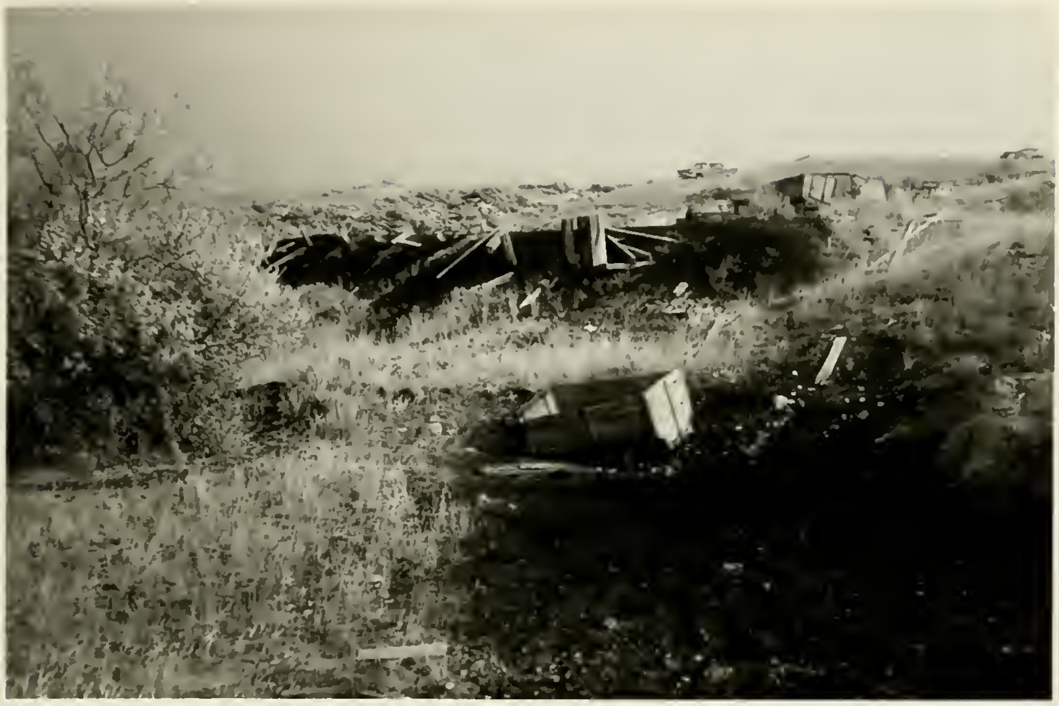


Figure 31. Slack pile, tipple remains and junked mine cars at the Rader Mine (view to northeast).

Figure 32. Looking down the air shaft at the Rader Mine.

SUMMARY AND RECOMMENDATIONS

During the course of fieldwork and research for this report the following abandoned coal mines were examined, recorded, mapped and photographed: the Mack/Nygard (24CH100), Larsen/Hubbs (24HL320), Ayars/Jackson/Hoppe/Alcott/Gussenhoven/Wieck Complex (24HL319), Havre Coal Mining Company (24HL321), Milk River/Perkins (24BL195), Cummings (24BL196), Burns (24BL197), and Rader/Dehl/Redekop (24BL198) mines in the Big Sandy and Milk River Coal fields. Historic records for the mines were researched and local informants were interviewed whenever possible. The undisturbed areas of the sites were examined for prehistoric cultural resources. No prehistoric cultural remains were found on any of the sites.

During research and fieldwork phases of this project it was found that, in most cases, little documentation was available or physical evidence remained on the sites which would expand the scope of the two research objectives: i.e., to better document historic mining and technology in terms of overall systems of operations and to evaluate the adaptive engineering strategies used by the mine operators. Only with the Havre Coal Mining Company mine (24HL321) was there sufficient data to describe in detail the internal technological system used during the mine's operation. In this case, the technology employed was conventional and reasonably efficient according to the standards of the time. Nor did any of the other mines appear to experiment with innovative techniques or equipment. The standard mining machines of the period were used and the conventional room and piller method of mining was employed. There was little incentive for innovative technologies since the conventional techniques were quite adequate for the mines to function and even prosper up until the 1930s. However, with the development of the new open pit coal mining technology in the eastern part of the Montana, starting in the 1920s at Colstrip, the small underground mines such as the ones described in this report were too ineffecient and technologically backward to compete.

The Larsen/Hubbs, Ayars et al. Complex, Havre Coal Mining Company, Cummings, Burns and Rader/Dehl/Redekop mine sites are not recommended as eligible for listing on the National Register of Historic Places. No standing structures remain on any of these sites. Little else remains from the mining operations other than coal waste dumps which are of no historical significance. Since the physical integrity of these sites has been virtually eradicated they do not meet the criteria for listing on the NRHP.

The Mack/Nygard and the Milk River mines are recommended as eligible for listing on the National Register of Historic Places. The physical integrity of the sites is poor to fair but both sites appear to meet criteria A ("are associated with events that have made a significant contribution to the broad patterns of our history") and C ("embody the distinctive characteristics of a type, period, or method of construction [and] that represent a significant and distinguishable entity whose components may lack individual distinction").

Neither the Mack/Nygard or the Milk River Mines nor any of the remaining sites examined for this report would appear to meet criteria D of the NRHP in that they would be likely to yield further information from any additional field work. Each site has been examined, recorded, mapped and photographed and no further work is recommended.

The mine openings and coal waste dumps are obvious and serious threats to public safety and health. It is recommended that the reclamation plans of the Department of State Lands be allowed to proceed on schedule. If any subsurface prehistoric or historic cultural materials are revealed during the reclamation work, the office of GCM Services, Inc. in Butte and the Montana Historic Preservation Office in Helena should be notified immediately.

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APPENDIX I

Site Forms

MONTANA CULTURAL RESOURCE INVENTORY

Form No. 1 Locational Information

1.1 Site number: 24CH100	1.2 Site name/field designation: Mack/Nygard Mines	1.3 County: Chouteau

1.4 Township/range:

T 28N R 14E NW 1/4 NE 1/4 SE 1/4 of Section 18

1.5 UTM:

Zone 12 576,500 Easting 5,336,800 Northing

1.6 Site type: Historic coal mine	1.7 Recording status & comments: The site has been examined, recorded, mapped and photographed.

1.8 Administrative/surface ownership:

James Pursley

1.9 Mineral ownership:

1.10 Project name:
Montana Department of State Lands - Abandoned Mines Reclamation Program

1.11 General narrative description of site:

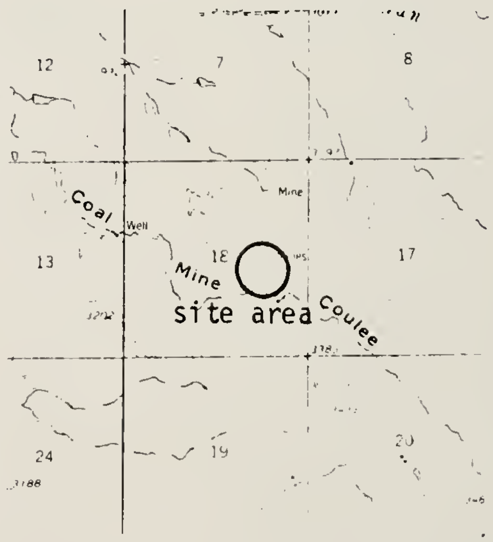
The site consists of an old coal mine located on the north side of a narrow coulee with steep rising hills on both sides. The ruins of a tipple, a hoist house, adits, mine cars, debris and coal waste piles currently are found on the site area.

1.12 Map reference:
USGS Centennial Mountain, Mont.
1959 - 1:62,500

1.13 City/town: ☒ vicinity of
Big Sandy

1.14 Access to site:

Take the Coal Mine Coulee Road which heads east from U.S. Highway 87 between Big Sandy and Box Elder. Follow this road for about 7 miles and the site will be seen on the north side of the road.



MONTANA CULTURAL RESOURCE INVENTORY

Form No. 2. Environmental Setting

Site Number: 24CH100

2.1 Geographic setting:

The site is located on the north side of the steep and narrow Coal Mine Coulee which cuts generally NW/SE through the hills which form the western edge of the Bearpaw Mountains.

2.2 Elevation: 991 m 3250 ft.

2.3 View/aspect:
The view is open to the south and restricted in all other directions.

2.4 Major drainage:
Coal Mine Coulee

2.5 Minor drainage(s):

2.6 Water sources:

	Names	Distance	Ele. Change	Type & seasonality
a.	Coal Mine Coulee Creek - 50 m south			perennial
b.				

2.7 Regional vegetation:

Foothill grassland and sagebrush

2.8 Local vegetation:

Range grasses, *Rhus* and sagebrush

2.9 Soils:

2.10 Surface visibility/season of survey:

good/autumn

2.11 Other environmental factors pertaining to site location:

Coal seams are close to the surface thus making the area desirable for the location of a coal mine.

MONTANA CULTURAL RESOURCE INVENTORY

Form No. 3 Site Assessment and Recording Documentation

Site Number: 24CH100

3.1 Condition of site: The tipple is in poor condition and deteriorating. The hoist house is intact. The rest of the site is debris and coal slack piles.

3.2 Site significance (NRHP):

The site was recommended as eligible for listing on the National Register of Historic Places under criteria A and C.

☐ Attachments:

3.3 Impacts: The Department of State Lands through its abandoned mines reclamation program plans to either remove or reclaim coal waste dumps, close open adits and remove any hazardous structures.

3.4 Recommendations:
The site has been recorded, mapped and photographed and no further work is recommended.

3.5 Site located by: Paul Anderson Date: 11/2/83	3.6 Site recorded by: Paul Anderson Date: 11/2/83	3.7 Revisions by: Date:

3.8 Permit No.
83/MT/ND/SD-042

3.9 Publications concerning site:
USGS Bulletin 541, "The Big Sandy Coal Field, Chouteau County, Montana." C.F. Bowen. Washington, 1912. USGS Bulletin 381, "The Milk River Coal Field", Leon Pepperberg, 1908.

3.10 Artifact repository:	3.11 Field notes/maps/photo repository: GCM Services, Inc., Butte, MT

3.12 Photos & accession No: Havre Mines III

No.	Description	View
62-67		

MONTANA CULTURAL RESOURCE INVENTORY

Form No. 5. Description of Historic Sites

Site number: 24CH100

5.1 Site dimensions, how determined:

160,000 m2

5.2 Features: 1) the ruins of a tipple, 2) a hoist house, 3) coal waste piles, 4) collapsed frame structure, 5) adit portals, 6) mine cars, 7) debris

5.3 Artifacts (observed, collected):

None

5.4 Historical information and evaluation: The area on which the mine is located was first patented to Cecil C. Mack under a coal entry patent #1436 on April 5, 1898. Additional land on the east side of the site area was patented to Julius Edward Nygard under a homestead entry patent #770566 on August 30, 1920. The Mack Mine was first opened by Cecil C. Mack sometime about 1896. The mine supplies coal to the local domestic market and also supplied Fort Assiniboine. It was reported that John J. Pershing, who would later become a general and would lead the U.S. Forces in World War One, was one of the soldiers in charge of the coal detail which obtained the coal from the mine. The mine produced a good quality of semi-bituminous coal, mined by an average of 15 men. The mine had no gas problems but it did have some water difficulties. During the 1920s the mine was electrified and during this same period Cecil Mack ceased operating the mine which was then leased to other operators. One of these leasees was Julius Nygard who had operated his own mine adjacent to the east side of the Mack Mine during the 1920s. Later, his brother Oscar Nygard leased the Mack Mine and then combined it with the Nygard as a single unit. The mine continued to operate on a small scale, producing about 1000 tons per year, through the 1930s. During the last years the mine was in operation it was leased by James Pursley who ran it until the declining demand for coal and a scarcity of miners forced it to close for good during World War Two.

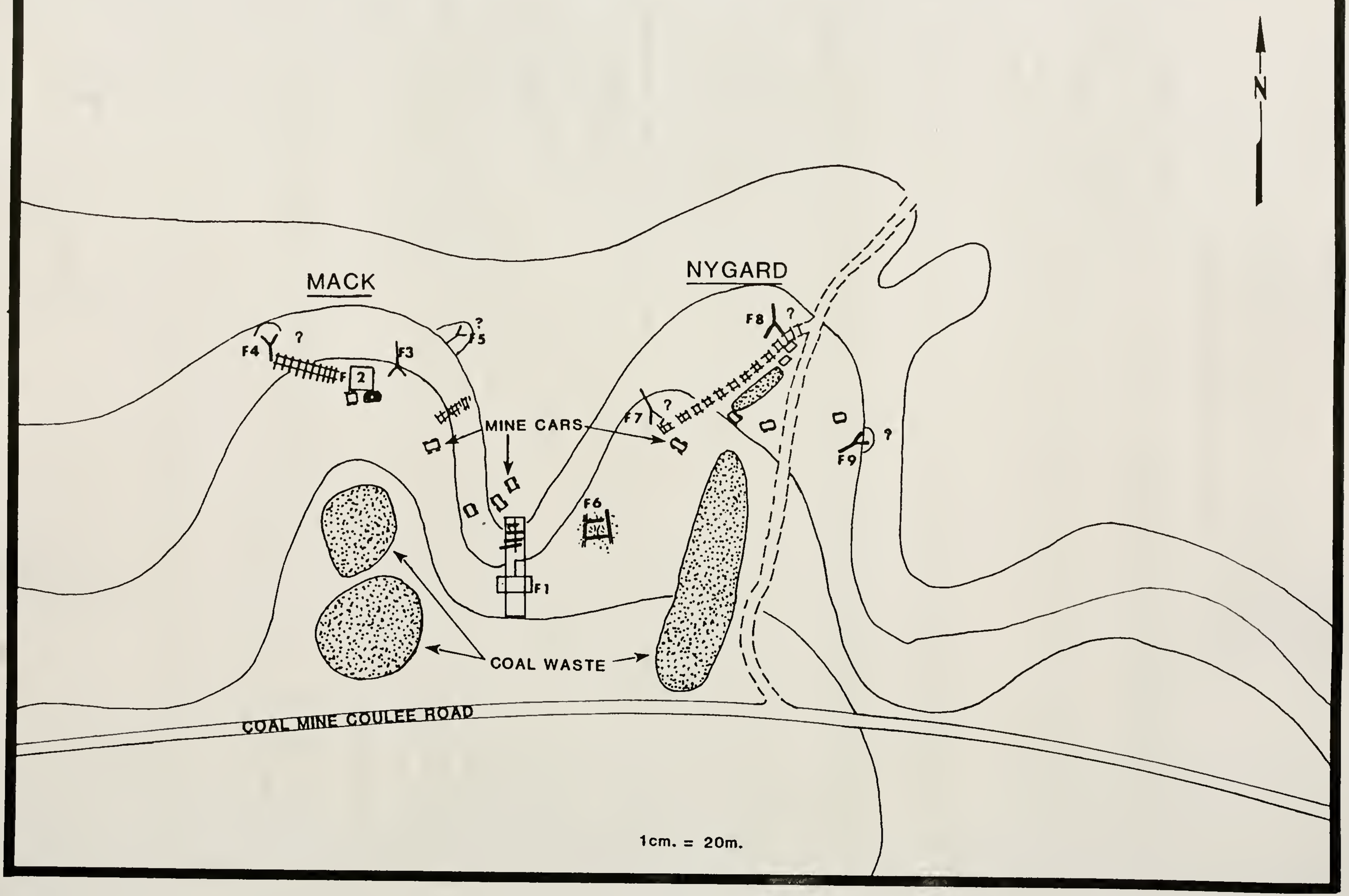
5.5 References

BLM Records Division, Billings, Mont.
USGS Bulletin 541, "The Big Sandy Coal Field", C.F. Bowen, 1912.
James Pursley, area rancher
Cecil Mack, Big Sandy, Montana

5.6 Subsurface testing, results, methods, etc.

none

MACK & NYGARD MINES



MONTANA CULTURAL RESOURCE INVENTORY

Form No. 1 Locational Information

1.1 Site number: 24HL320	1.2 Site name/field designation: Larsen/Hubbs mines	1.3 County: Hill

1.4 Township/range:

T 33N R 15E SE 1/4 SW 1/4 of Section 24

NE 1/4 NW 1/4 of Section 25

1.5 UTM:

Zone 12 594,800 Easting 5,383,000 Northing

1.6 Site type: historic coal mine	1.7 Recording status & comments: recorded, mapped and photographed

1.8 Administrative/surface ownership:

Richard Larsen and Bert Adams

1.9 Mineral ownership:

1.10 Project name:
Department of State Lands
Abandoned Mines Reclamation
Program

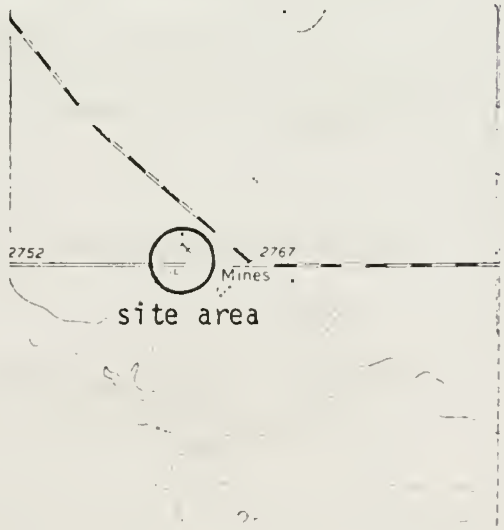
1.11 General narrative description of site:

The site is located at the head of a coulee which flows south to the Milk River. A trash-filled adit portal and miscellaneous debris and coal waste dumps constitute most of the site. A large coal waste dump is also found north of the county road about 50 m north of the head of the coulee.

1.12 Map reference:
USGS Havre, Montana
1964 (photo revised 1977) - 1:24,000

1.13 City/town: ☒ vicinity of

1.14 Access to site:
Take the highway north out of Havre for 4 miles. At the intersection with the county road which heads west and the highway which angles NW take the county road for 100 m and the site will be located on both sides of the road.



MONTANA CULTURAL RESOURCE INVENTORY

Form No. 2. Environmental Setting

Site Number: 24HL320

2.1 Geographic setting:

2.2 Elevation: 838 m 2750 ft.

The site is at the head of a coulee which runs to the south and on the rolling, open grasslands above the coulee and which also extends to the east and west.

2.3 View/aspect:
At the head of the coulee the view is open in all directions.

2.4 Major drainage:

Milk River

2.5 Minor drainage(s):
Small unnamed coulee which runs south to the Milk River.

2.6 Water sources:

	Names	Distance	Ele. Change	Type & seasonality
a.	none in the vicinity of the site			
b.				

2.7 Regional vegetation:

prairie grasses with patches of sagebrush

2.8 Local vegetation:

prairie grasses and *Rhus*

2.9 Soils:

2.10 Surface visibility/season of survey:

good/autumn

2.11 Other environmental factors pertaining to site location:
Coal seams are exposed in the coulee which made it a desirable location for the mine.

MONTANA CULTURAL RESOURCE INVENTORY

Form No. 3 Site Assessment and Recording Documentation

Site Number: 24HL320

3.1 Condition of site: Little remains of the site other than coal waste dumps and debris.

3.2 Site significance (NRHP):
The physical integrity of the site has been destroyed and therefore it is not recommended as eligible for listing on the National Register of Historic Places.

☐ Attachments:

3.3 Impacts:
The Department of State Lands plans to either remove or reclaim coal waste dumps and close open adits.

3.4 Recommendations:
The site has been recorded, mapped and photographed and no further work is recommended....

3.5 Site located by: P. Anderson Date: 11/2/83	3.6 Site recorded by: P. Anderson Date: 11/2/83	3.7 Revisions by: Date:

3.8 Permit No. 83-MT/ND/SD-042

3.9 Publications concerning site:
U.S.G.S. Bulletin 381, "The Milk River Coal Field" Leon J. Pepperberg, 1908

3.10 Artifact repository: none collected	3.11 Field notes/maps/photo repository: GCM Services, Butte, Montana

3.12 Photos & accession No:

No.	Description	View
50-53	Havre mine proofs	

MONTANA CULTURAL RESOURCE INVENTORY

Form No. 5. Description of Historic Sites

Site number: 24HL320

5.1 Site dimensions, how determined:

30,000 m2

5.2 Features:

1) adit portal, 2) coal waste dumps, 3) 4 x 6 m stone and brick foundation

5.3 Artifacts (observed, collected):

1) scatter of bricks, 2) wood wagon wheels, 3) junked farm machinery,
4) wooden wagon bed, 5) 1920s vintage truck parts

5.4 Historical information and evaluation:

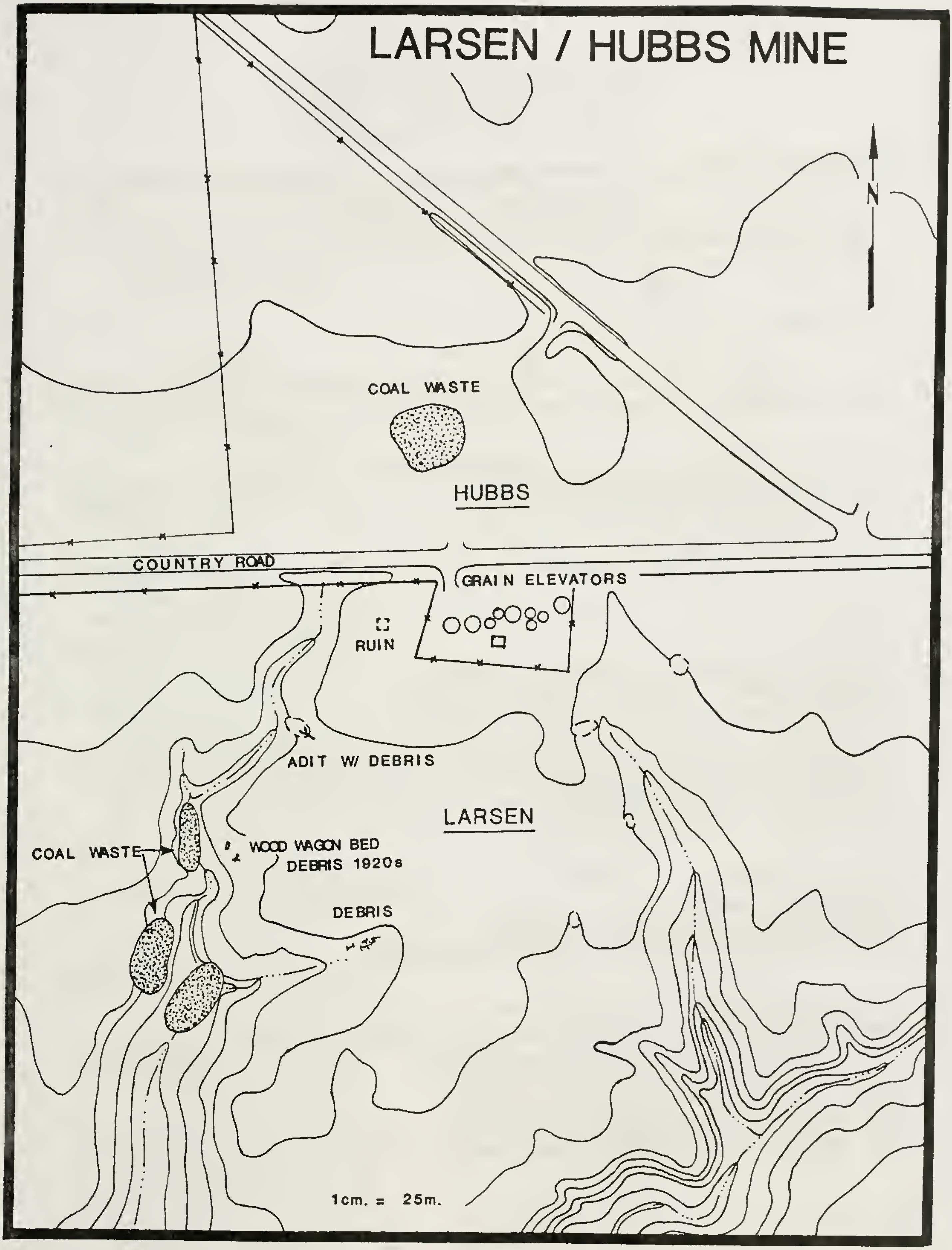
The land on which the site is located was patented to William Sherman Davis as homestead entry #457760 on Feb. 12, 1915 (sec. 24) and to James A. Brown as homestead entry #432418 on Sept. 19, 1914 (sec. 25). The USGS Bulletin 381 mentions a coal mine prospect at this location in 1908 but there were no reports of a working mine being developed at this time. The mines that were ultimately developed at this location were first opened around 1930 according to Richard Larsen, the son of Ole Larsen who developed and ran the Larsen mine during the 1930s and 1940s. The Hubbs Mine was operated during this same period by William Hubbs and Fred Gertson. Both mines were small wagon mines which sold to the local market for domestic use.

5.5 References

BLM Records Division, Billings, Montana
USGS Bulletin 381, "The Milk River Coal Field", Leon J. Pepperberg, 1908.
Richard Larsen, Havre, Montana

5.6 Subsurface testing, results, methods, etc.

none



LARSEN / HUBBS MINE

MONTANA CULTURAL RESOURCE INVENTORY

Form No. 1 Locational Information

1.1 Site number:
24HL319

1.2 Site name/field designation:
Ayars/Jackson/Hoppe/Alcott/Gussenhoven/Wieck Complex (SCS 29-30)

1.3 County:
Hill

1.4 Township/range:

T 33N R 16E

W1/2 of Section 29
E1/2 of Section 30

1.5 UTM:

Zone 12 596,400 to 598,100 Easting 5,382,000 to 5,383,000 Northing

1.6 Site type:

historic coal mine

1.7 Recording status & comments:

recorded, mapped and photographed

1.8 Administrative/surface ownership:

Bert Adams (sec. 29)
State and Bert Adams (sec. 30)

1.9 Mineral ownership:

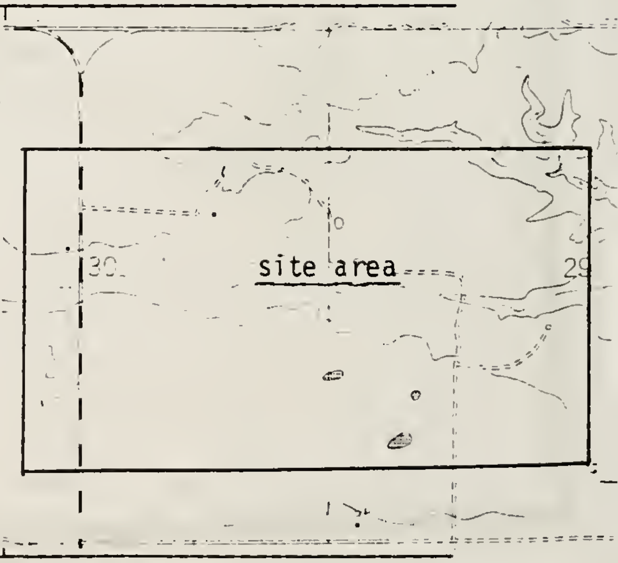
1.10 Project name:
Department of State Lands Abandoned Mines Reclamation Program

1.11 General narrative description of site:
The site covers a large area through the center of the west half of section 29 and the east half of section 30. Most of the site area lies within the low rolling grasslands and farmlands on both sides the small intermittent stream which runs west to east through the two sections. The site consists primarily of coal waste dumps which are scattered throughout the area, and also a number of open adit portals and with a few concrete remnants of foundations of unknown structures.

1.12 Map reference:
USGS Havre, Mont.
1964 (photo revised 1977) - 1:24,000

1.13 City/town: ☒ vicinity of
Havre, Mont.

1.14 Access to site:
Take Highway 232 north from Havre for 2-1/2 miles and the site area will be found on both sides of the highway. To reach the cabin remains at the east end of the site, take the road east to the radio station for one mile then travel north on the faint ranch road for 1/2 mile to the site area.



MONTANA CULTURAL RESOURCE INVENTORY

Form No. 2. Environmental Setting

Site Number: 24HL319

2.1 Geographic setting:

The site area lies within the area drained by the small intermittent creek which flows west to east through sections 29 and 30. The area consists of low rolling grass and farm lands.

2.2 Elevation: 838 m 2750 ft.

2.3 View/aspect:

open in all directions

2.4 Major drainage:

Milk River

2.5 Minor drainage(s):
intermittent stream which flows through the area and drains into the Milk River

2.6 Water sources:

	Names	Distance	Ele. Change	Type & seasonality
a.				
b.				

2.7 Regional vegetation:
grasslands, patches of sagebrush and cottonwood trees along the banks of the river

2.8 Local vegetation:

prairie grasses and sagebrush

2.9 Soils:

2.10 Surface visibility/season of survey:

good/autumn

2.11 Other environmental factors pertaining to site location:
The coal seams in the area are close to the surface making the area desirable for coal mines.

MONTANA CULTURAL RESOURCE INVENTORY

Form No. 3 Site Assessment and Recording Documentation

Site Number: 24HL319

3.1 Condition of site: The site has been virtually destroyed with only coal waste dumps, mine openings and a few faint structural elements remaining.

3.2 Site significance (NRHP):
The physical integrity of the site has been destroyed and therefore the site is not recommended as elegible for listing on the National Register of Historic Places.

☐ Attachments:

3.3 Impacts:

The Department of State Lands plans to either remove or reclaim the coal waste dumps and close any open adit portals.

3.4 Recommendations:
The site has been recorded, mapped and photographed and no further work is recommended.

3.5 Site located by: P. Anderson Date: 11/2/83	3.6 Site recorded by: P. Anderson Date: 11/2/83	3.7 Revisions by: Date:

3.8 Permit No. 83-MT/ND/SD-042

3.9 Publications concerning site: USGS Bulletin 381, "The Milk River Coal Field," Leon J. Pepperberg, 1908. U.S. Bureau of Mines Technical Paper 529, Analyses of Montana Coals, 1932.

3.10 Artifact repository: none collected	3.11 Field notes/maps/photo repository: GCM Services, Butte, Montana

3.12 Photos & accession No:

No.	Description	View
54-59	Havre Mines proofs	

MONTANA CULTURAL RESOURCE INVENTORY

Form No. 5. Description of Historic Sites

Site number: 24HL319

5.1 Site dimensions, how determined:

1,188,000 m^2

5.2 Features:

1) coal waste dumps, 2) four open adit portals and two closed adit portals, 3) a 3 x 4 m concrete foundation, 4) a cinderblock basement and chimney for a 4 x 6 m structure, 5) 6 x 9 m concrete slab for a garage, 6) possible remains of a barn, 7) a double wooden shed measuring 9 x 10 m, 8) 4 x 4.5 m concrete foundation 2 m deep, 9) concrete foundation measuring 9 x 11 m

5.3 Artifacts (observed, collected):

misc. debris .

5.4 Historical information and evaluation: The site area within section 30 is on state held land which would have been leased for mining activities. The land on which the shed and foundations are located at the east end of the site area was acquired by Anthony Wieck as homestead entry patent #543233 on Aug. 21, 1916. Wieck was reported to have operated a mine at this location for Joe Gussenhoven from around 1914 until about 1922. The Alcott Mine was located in the NW1/4 of the SW1/4 of sec. 29. A cash entry patent (#486374) was acquired by Joseph Gussenhoven & John R. Alcott on Aug. 11, 1915. However, the Alcott Mine existed in this location as early as 1908 according to Pepperberg. The mine was said to have been only a small wagon mine which sold to the local market. Other small mines existed during this period in sec. 30 although no patent records exist for this section since it was held by the state. Local informants report that a number of small mines were operated in this area since it was comparatively easy to sink a shaft to the coal seam which was only about 50 feet below the surface. It was reported that north of the stream in the center of the section the mines were operated by Garrie J. Ayars and H. A. Jackson starting in 1915. Later Jackson took over the operation and then sold out to Carl Hoppe around 1927. South of the stream the mines were said to have been operated by John R. Alcott. They operated during the 1910s and 1920s with most shutting down by the mid 1920s because the coal ran out. The Havre Daily Promoter on Nov. 4, 1925 mentions in an article that Jackson and Alcott were among the area's main coal operators. The article does not mention the location of their mines but it can probably be assumed they were still in this area. Local residents also report that Carl Hoppe continued to operate his mine until 1943.

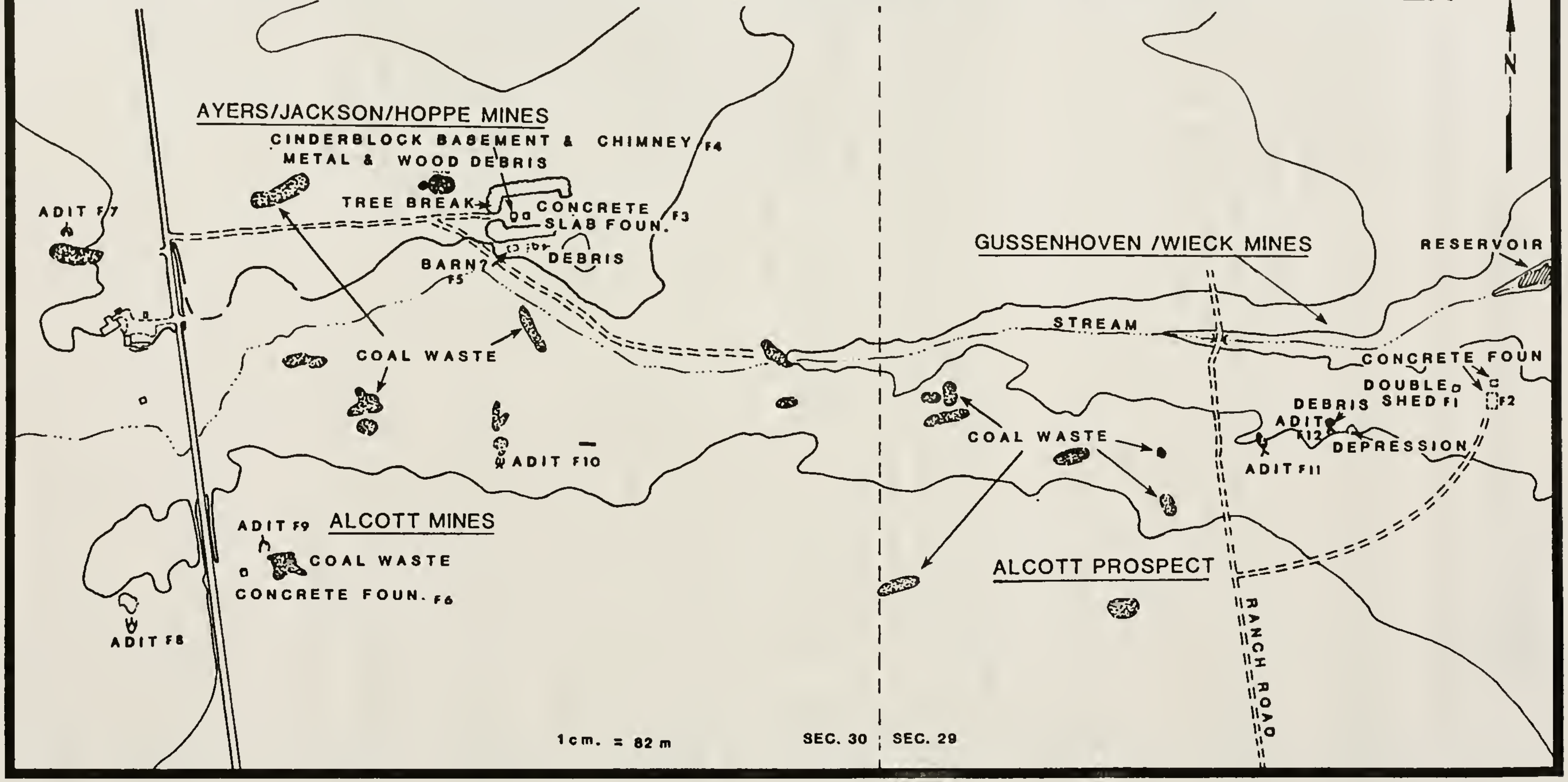
5.5 References

BLM Records Division, Billings, Montana
USGS Bulletin 381, "The Milk River Coal Field", Leon Pepperberg, 1908.
Fred Vavra, Chinook, MOnt.
John and Eurdora Landskov, Havre, Mont.

5.6 Subsurface testing, results, methods, etc.

none

AYERS/ JACKSON/HOPPE /ALCOTT/GUSSENHOVEN/WIECK COMPLEX



MONTANA CULTURAL RESOURCE INVENTORY

Form No. 1 Locational Information

1.1 Site number: 24HL321	1.2 Site name/field designation: Havre Coal Mining Company Mine (SCS31)	1.3 County: Hill

1.4 Township/range:

T 33N R 16E

SW 1/4 of Section 30
NW 1/4 of Section 31

1.5 UTM:

Zone 12 596,000 to 597,000 Easting 5,381,000 to 5,382,000 Northing

1.6 Site type:
historic coal mine

1.7 Recording status & comments:
recorded, mapped and photographed

1.8 Administrative/surface ownership:
State/Bert Adams

1.9 Mineral ownership:

1.10 Project name:
Department of State Lands Abandoned Mines Reclamation Program

1.11 General narrative description of site:

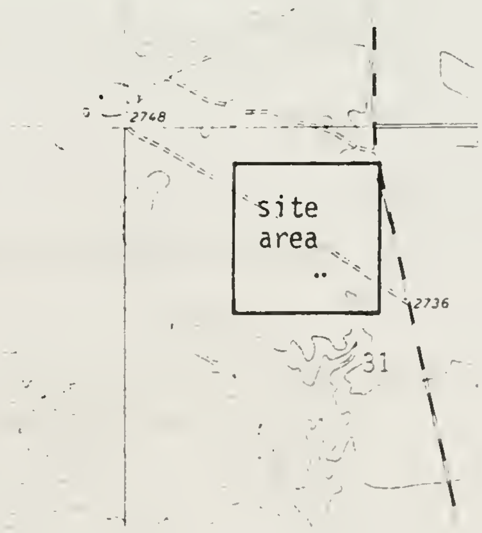
The site covers a large area of low, rolling grasslands and consists, for the most part, of coal waste dumps. Few structural remains exist on the site forms from the mining complex except for scattered debris, concrete foundation and two adit portals.

1.12 Map reference:
USGS Havre, Mont.
1964 (photo revised 1977) 1:24,000

1.13 City/town: ☒ vicinity of
Havre, Montana

1.14 Access to site:

Take highway 232 north out of Havre for two miles to the Adams Ranch road which heads northwest. The site area will be found north and south of the Adams Ranch driveway.



MONTANA CULTURAL RESOURCE INVENTORY

Form No. 2. Environmental Setting

Site Number: 24HL321

2.1 Geographic setting:

The site is located on rolling grasslands to the north of the coulee which runs south into the Milk River.

2.2 Elevation: 838 m 2750 ft.

2.3 View/aspect:
open in all directions

2.4 Major drainage:

Milk River

2.5 Minor drainage(s):

The coulee south of the site area.

2.6 Water sources:

	Names	Distance	Ele. Change	Type & seasonality
a.	none on the site area			
b.				

2.7 Regional vegetation:
prairie grasses and patches of sagebrush with cottonwood trees along the river banks

2.8 Local vegetation:

prairie grasses and sagebrush

2.9 Soils:

2.10 Surface visibility/season of survey:

good/autumn

2.11 Other environmental factors pertaining to site location:
Thick coal seam lies relatively close to the surface making it a desirable location for a coal mine

MONTANA CULTURAL RESOURCE INVENTORY

Form No. 3 Site Assessment and Recording Documentation

Site Number: 24HL321

3.1 Condition of site: Little remains of the mining operation other than coal waste dumps.

3.2 Site significance (NRHP):
The physical integrity has been destroyed and therefore the site is not recommended as eligible for listing on the National Register of Historic Places.

☐ Attachments:

3.3 Impacts:

The Department of State Lands plans to either remove or reclaim coal waste dumps and close any open adit portals.

3.4 Recommendations:
The site has been recorded, mapped and photographed and no further work is recommended.

3.5 Site located by: P. Anderson Date: 11/2/83	3.6 Site recorded by: P. Anderson Date: 11/2/83	3.7 Revisions by: Date:

3.8 Permit No. 83-MT/ND/SD-042

3.9 Publications concerning site:
USGS Bulletin 381, "The Milk River Coal Field", Leon Pepperberg, 1908. Havre Herald: 4/19/1907, 5/3/1907, 5/4/1907, 5/17/1907, 5/24/1907, 1/10/1908, Havre Plaindealer: 5/25/1907, 10/2/1909. Grit, Guts and Gusto: A History of Hill County, The Hill County Bicentenial Commission, Bear Paw Printers, Havre, 1976.

3.10 Artifact repository: none collected	3.11 Field notes/maps/photo repository: GCM Services, Butte, Mont.

3.12 Photos & accession No:

No.	Description	View
60-61	Havre Coal Mines Proof	

MONTANA CULTURAL RESOURCE INVENTORY

Form No. 5. Description of Historic Sites

Site number: 24HL321

5.1 Site dimensions, how determined:

52,000 m^2

5.2 Features:

1) two adit portals, 2) two concrete foundations, 3) concrete slabs which once formed part of a foundation, 4) coal waste dumps

5.3 Artifacts (observed, collected):

scattered debris

5.4 Historical information and evaluation: The area on which the site is located was state held land and no patents were issued although the land was leased to the coal mines. The area was first developed by the Havre Fuel Company around 1905. The company was incorporated in 1907 as the Havre Coal Mining Company which then undertook large-scale development of the mine during 1907 and 1908 with the building of a narrow-gauge railroad from the mine head to the Great Northern tracks at Havre where a tipple and power plant were also constructed. The mine was reported to have been a steady and fairly large-scale producer for the next 15 years until it closed in 1925 when the coal seams were played out. The coal produced by the mine was, for the most part, sold to the local market.

5.5 References

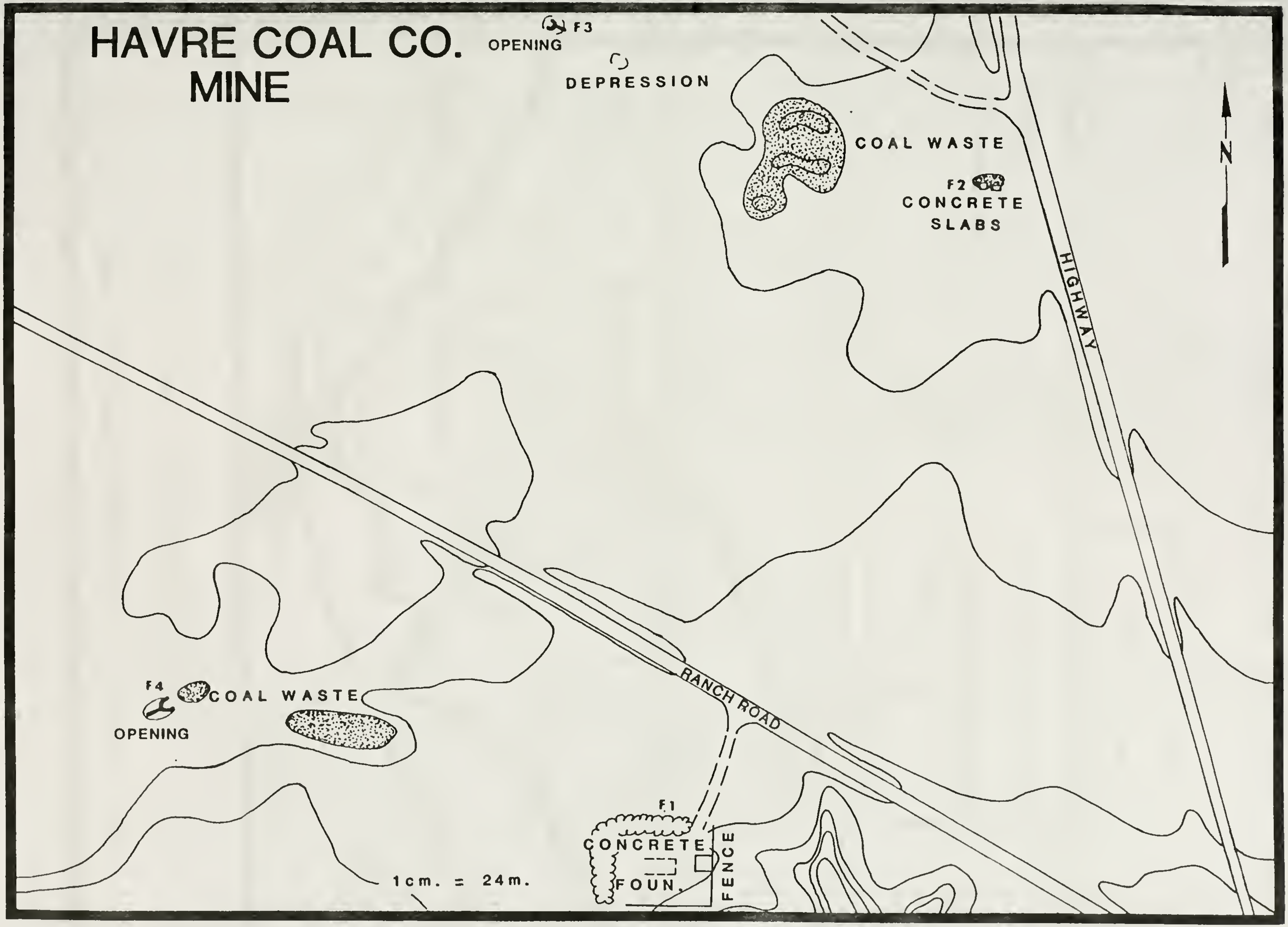
(see form no. 3 - 3.9 "publications concerning site")

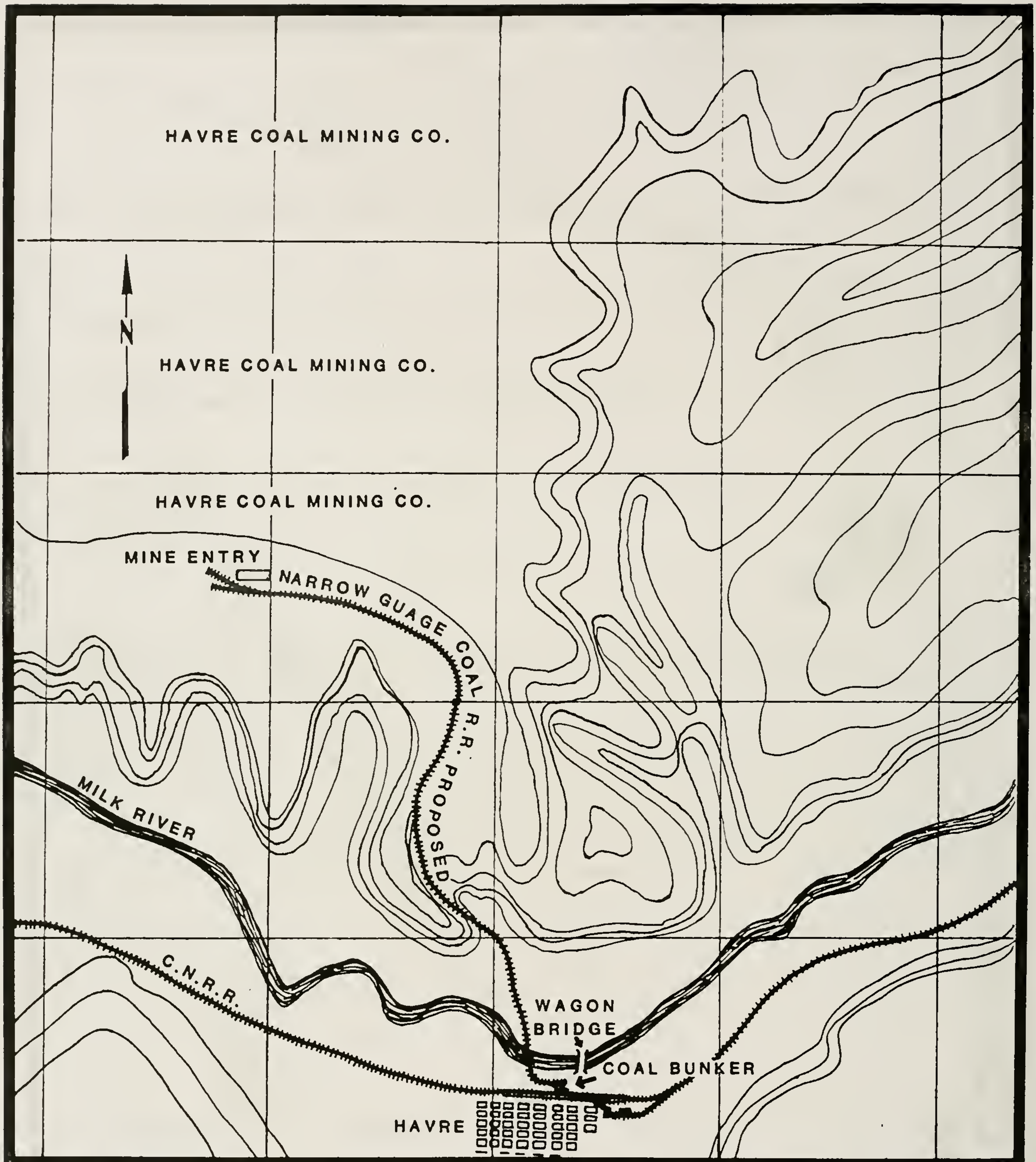
Fred Vavra, Havre, Montana

5.6 Subsurface testing, results, methods, etc.

none

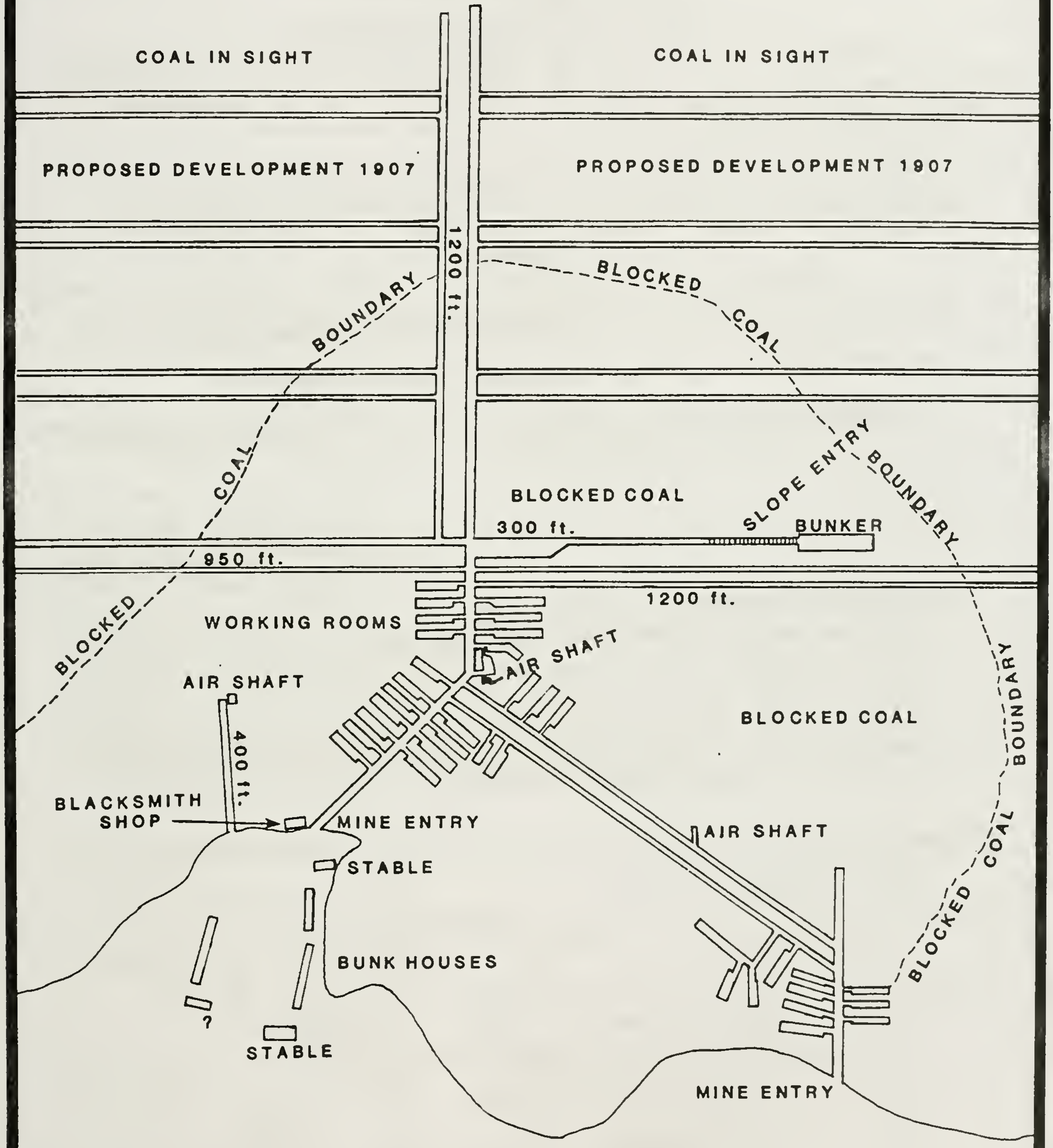
HAVRE COAL CO. MINE





1907 MAP HAVRE COAL CO. MINE LOCATION

(FROM HAVRE HERALD APRIL 19, 1907)



1907 MAP HAVRE COAL CO. MINE WORKINGS (FROM HAVRE HERALD APRIL 19, 1907)

MONTANA CULTURAL RESOURCE INVENTORY

Form No. 1 Locational Information

1.1 Site number: 24BL195

1.2 Site name/field designation: Milk River/Perkins mines

1.3 County: Blaine

1.4 Township/range:

T 33N R 19E 1/4 NE 1/4 SW 1/4 of Section 7
NW 1/4 of section 18

1.5 UTM:

Zone 12 624,900 to 625,600 Easting 5,387,000 5,388,000 Northing

1.6 Site type: historic coal mines

1.7 Recording status & comments: recorded, mapped and photographed

1.8 Administrative/surface ownership:

1.9 Mineral ownership:

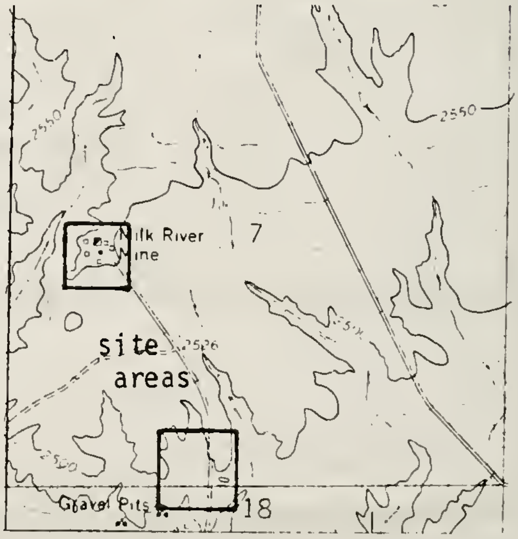
1.10 Project name: Department of State Lands Abandoned Mines Reclamation Program

1.11 General narrative description of site:
The sites are located in a small gully and on the open bench area at the head of the gully. The main complex for the Milk River Mine consists of various structures north of the gully while the main entrance for the mine is found in the upper end of the gully. A coal slack pile, the remains of a tipple and a powder magazine are also found near the mine's slope entrance. All that remains of the Perkins Mine are some coal waste areas to the east of the Milk River Mine entrance.

1.12 Map reference:
USGS Telescope Coulee, Mont.
1964 - 1:24,000

1.13 City/town: ☒ vicinity of
Chinook, Montana

1.14 Access to site:
Three miles west of Chinook on U.S. Hywy 2 take the county road north for two miles and the site will be located on both sides of the road and the main complex for the Milk River Mine will be found at the end of the road.



MONTANA CULTURAL RESOURCE INVENTORY

Form No. 2. Environmental Setting

Site Number: 24BL195

2.1 Geographic setting:

2.2 Elevation: 753 m 2470 ft.
777 -2550

The site is located in a small gully which runs north/south in the bench area north of the Milk River and on the rolling, grasslands at the head of the coulee.

2.3 View/aspect:
generally open

2.4 Major drainage:
Milk River

2.5 Minor drainage(s):
small coulee running south from the site area

2.6 Water sources:

Names	Distance	Ele. Change	Type & seasonality

a. Belknap Canal located about 400 m south of the mine entrance

b.

2.7 Regional vegetation:
prairie grasses, patches of sagebrush and cottonwood trees along the banks of the Milk River

2.8 Local vegetation:

prairie grasses

2.9 Soils:

2.10 Surface visibility/season of survey:

good/autumn

2.11 Other environmental factors pertaining to site location:
coal seams are close to the surface making it a desirable location for a mine

MONTANA CULTURAL RESOURCE INVENTORY

Form No. 3 Site Assessment and Recording Documentation

Site Number: 24BL195

3.1 Condition of site: The overall site remains in fair condition although the remaining structures are in poor condition.

3.2 Site significance (NRHP):
The site is recommended as eligible for listing on the National Register of Historic Places under criteria A and C.

☐ Attachments:

3.3 Impacts:
The Department of State Lands plans to plus the open air shaft, close the mine entrance and either remove or reclaim the coal waste dumps

3.4 Recommendations:
The site has been recorded, mapped and photographed and no further work is recommended.

3.5 Site located by: P. Anderson Date: 11/1/83	3.6 Site recorded by: P. Anderson Date: 11/1/83	3.7 Revisions by: Date:

3.8 Permit No.
83/MT/ND/SD-042

3.9 Publications concerning site:
USGS Bulletin 381, "The Milk River Coal Field, Montana," Leon Pepperberg, 1908. The Chinook Opinion, 7/23/1908. The Havre Herald, 8/5/1908.

3.10 Artifact repository: none collected	3.11 Field notes/maps/photo repository: GCM Servies, Butte, Montana

3.12 Photos & accession No:

No.	Description	View
26-49 - Havre mines proof		

MONTANA CULTURAL RESOURCE INVENTORY

Form No. 5. Description of Historic Sites

Site number: 24BL195

5.1 Site dimensions, how determined:

32,400 m^2 (upper site area)
25,900 m^2 (lower site area) m^2

5.2 Features: (Upper area) 1) powder magazine, 2) quonset bldg., 3) outhouse, 4) cinder block garage, 5) scale house, 6) two wood garages, 7) wood frame bldg. (probably a "dry"), 8) air shaft, 9) cistern. (Lower area) 1) adit portals, 2) coal waste dumps, 3) concrete tipple foundations, 4) two concrete powder magazines

5.3 Artifacts (observed, collected):

1) Sullivan electric mine engine, 2) junked autos and farm machinery of recent vintage, 3) possible Model T remains, 4) misc. debris

5.4 Historical information and evaluation: The site area was first patented to the Milk River Coal Company as a cash entry patent #288304 on Aug. 19, 1912. However, the mine was developed earlier in 1907 by the Ruhe-Lange Coal Company of Chinook. The Milk River Coal Company was incorporated in July of 1908 and then bought out the Ruhe-Lange holdings and began large-scale development of the mine. The mine was first operated by Lauren Sargent who continued to run the mine for most of its history. The mine was said to have had a very good quality coal which was sold to the local market until the mine closed in 1970. The Perkins Mine was located on land first patented to Burton G. Henry under a homestead entry #453362 on Jan. 13, 1915. The Perkins Mine was not developed until 1932 when it was opened by Spencer Perkins. The mine employed 15 to 20 men for the next decade until it was forced to close because of fire in 1945.

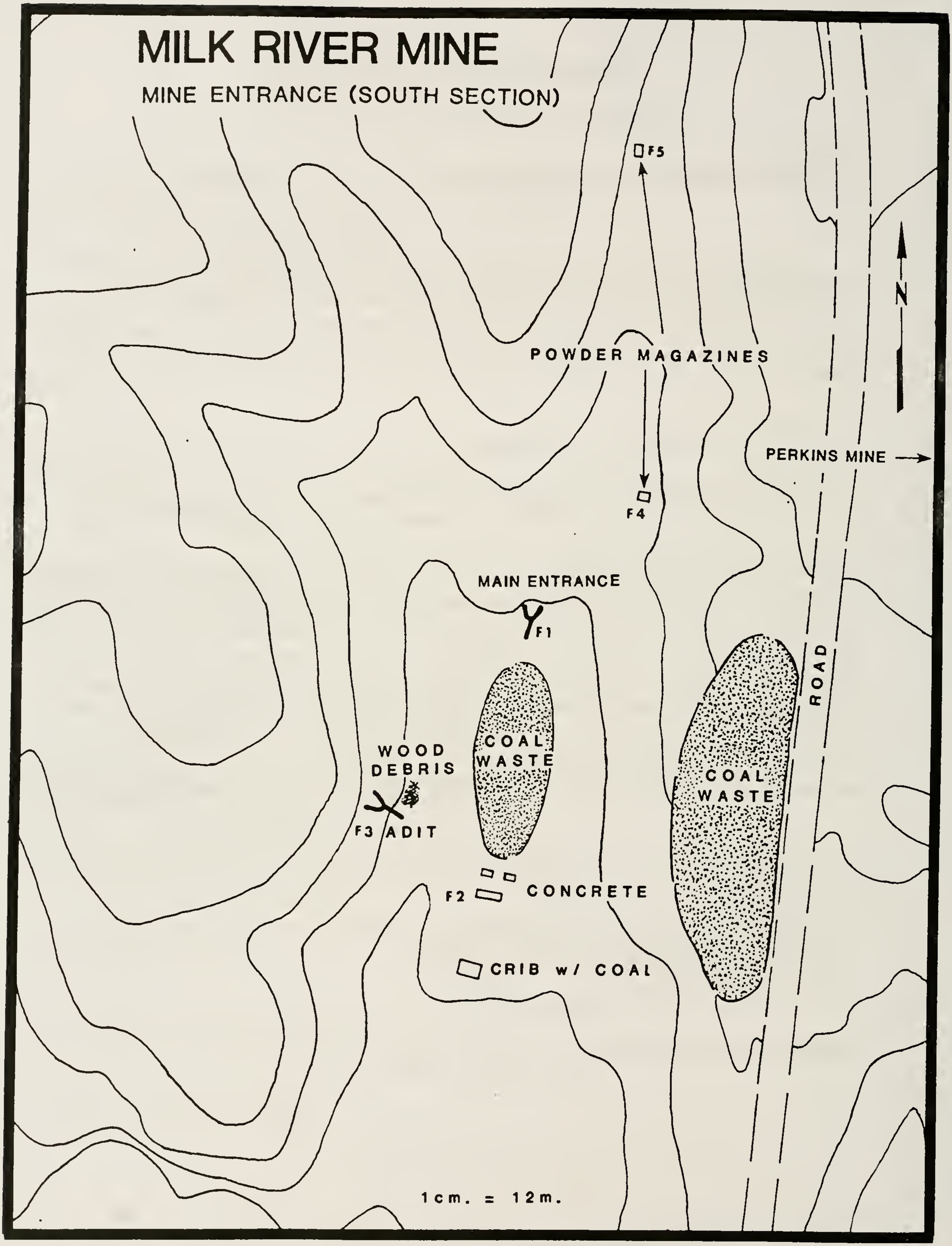
5.5 References
(see form #3 - 3.9 publications concerning site)
BLM Records Division, Billings, Montana
Mrs. Lauren Sargent, Havre, Montana
Mrs. Elaine Kaufman, Havre, Montana
Mrs. Dorothy Elias, Chinook, Montana

5.6 Subsurface testing, results, methods, etc.

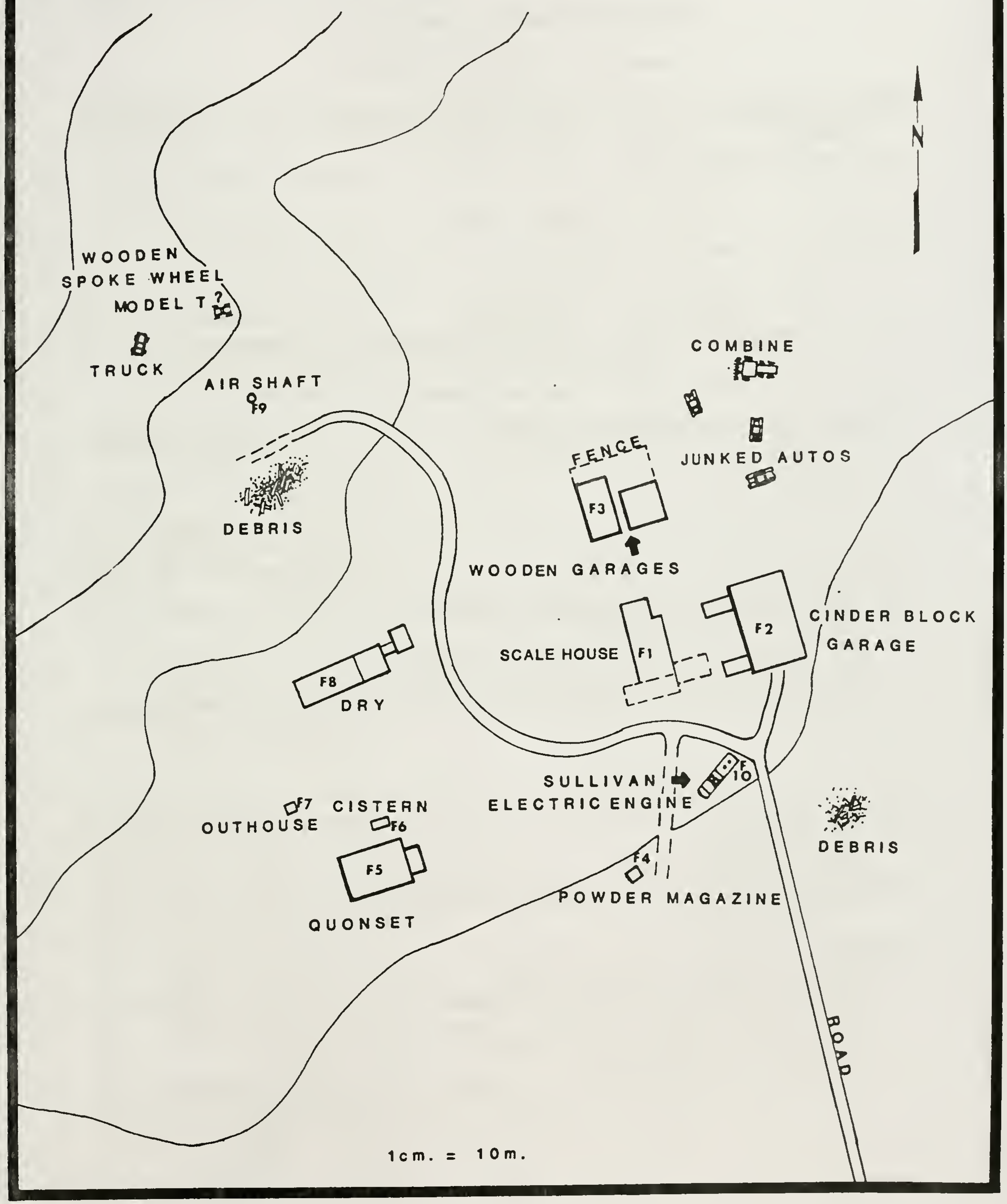
none

MILK RIVER MINE

MINE ENTRANCE (SOUTH SECTION)



MILK RIVER MINE (NORTH SECTION)



MONTANA CULTURAL RESOURCE INVENTORY

Form No. 1 Locational Information

1.1 Site number: 24BL196	1.2 Site name/field designation: Cummings Mine (Willman)	1.3 County: Blaine

1.4 Township/range:

T 32N R 20E SW 1/4 NW 1/4 SE 1/4 of Section 27

1.5 UTM:

Zone 12 639,140 Easting 5,373,480 Northing

1.6 Site type: historic coal mine	1.7 Recording status & comments: recorded, mapped and photograhed

1.8 Administrative/surface ownership:

Frank Willman

1.9 Mineral ownership:

1.10 Project name:
Department of State Lands
Abandoned mines reclamation program

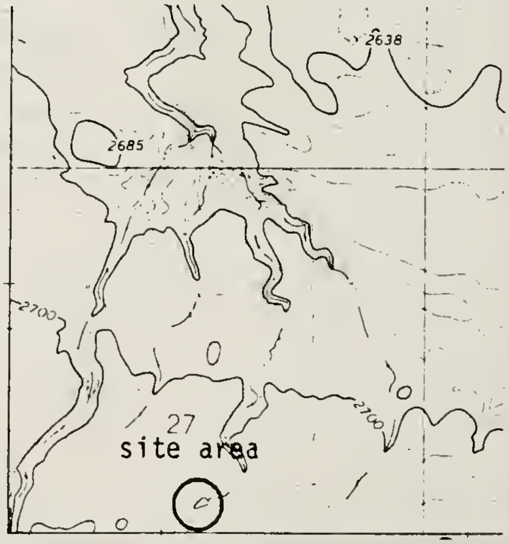
1.11 General narrative description of site:

The site is located at the base of the south-facing hill which forms the northern edge of a small coulee. A small reservoir is adjacent to the site and sout of the reservoir is the remnants of a homestead.

1.12 Map reference:
USGS Zurich, Mont.
1964 - 1:24,000

1.13 City/town: ☒ vicinity of
Chinook, Mont.

1.14 Access to site:
Seven miles south of Chinook on the road to Cleveland, turn east on the county road between townships 31 and 32. Travel 4 miles and then take range road north to section 27 to the site.



MONTANA CULTURAL RESOURCE INVENTORY

Form No. 2. Environmental Setting

Site Number: 24BL196

2.1 Geographic setting:

rolling, grass-grown, drift-covered plains

2.2 Elevation: 829 m 2720 ft.

2.3 View/aspect:
view from the homestead is open in all directions
view from the mine area is restricted in all directions

2.4 Major drainage:
Lonetree Coulee which drains north into the Milk River

2.5 Minor drainage(s):
upper tributary of Lonetree Coulee

2.6 Water sources:

	Names	Distance	Ele. Change	Type & seasonality
a.	a small reservoir is adjacent to the site			
b.				

2.7 Regional vegetation:
prairie rangeland

2.8 Local vegetation:
range grasses and sagebrush

2.9 Soils:

2.10 Surface visibility/season of survey:
good/autumn

2.11 Other environmental factors pertaining to site location:
A coal seam outcrops on the site making it a desirable place to dig a coal mine.

MONTANA CULTURAL RESOURCE INVENTORY

Form No. 3 Site Assessment and Recording Documentation

Site Number: 24BL196

3.1 Condition of site: Nothing remains of the coal mine except for coal waste The farmstead house is in good condition. Only foundations remains of the original homestead structures.

3.2 Site significance (NRHP):
The physical integrity of the mine has been destroyed. Only foundations remain of the original homestead buildings. The remaining house is in good condition but is of recent origin and of little historical or architectural significance; therefore, the site is not recommended as eligible for listing on the National Register of Historic Places.

☐ Attachments:

3.3 Impacts:

The Department of State Lands plans to close or fill openings to the mine workings.

3.4 Recommendations:
The site has been recorded, mapped and photographed and no further work is recommended.

3.5 Site located by: Paul Anderson Date: 11/1/83	3.6 Site recorded by: Paul Anderson Date: 11/1/83	3.7 Revisions by: Date:

3.8 Permit No.

3.9 Publications concerning site:

none

3.10 Artifact repository: none collected	3.11 Field notes/maps/photo repository: GCM Services, Butte, MT

3.12 Photos & accession No:

No.	Description	View
1-12	Havre Mine proofs	

MONTANA CULTURAL RESOURCE INVENTORY

Form No. 5. Description of Historic Sites

Site number: 24BL196

5.1 Site dimensions, how determined:

8,000 m^2

5.2 Features:
1) coal waste, 2) mine air hole or subsidence, 3) frame house, 4) frame shed, 5) chicken coop, 6) two stone and concrete foundations, 7) stone wall, 8) outhouse foundation, 9) collapsed frame bldg.

5.3 Artifacts (observed, collected):
farm plow and misc. debris

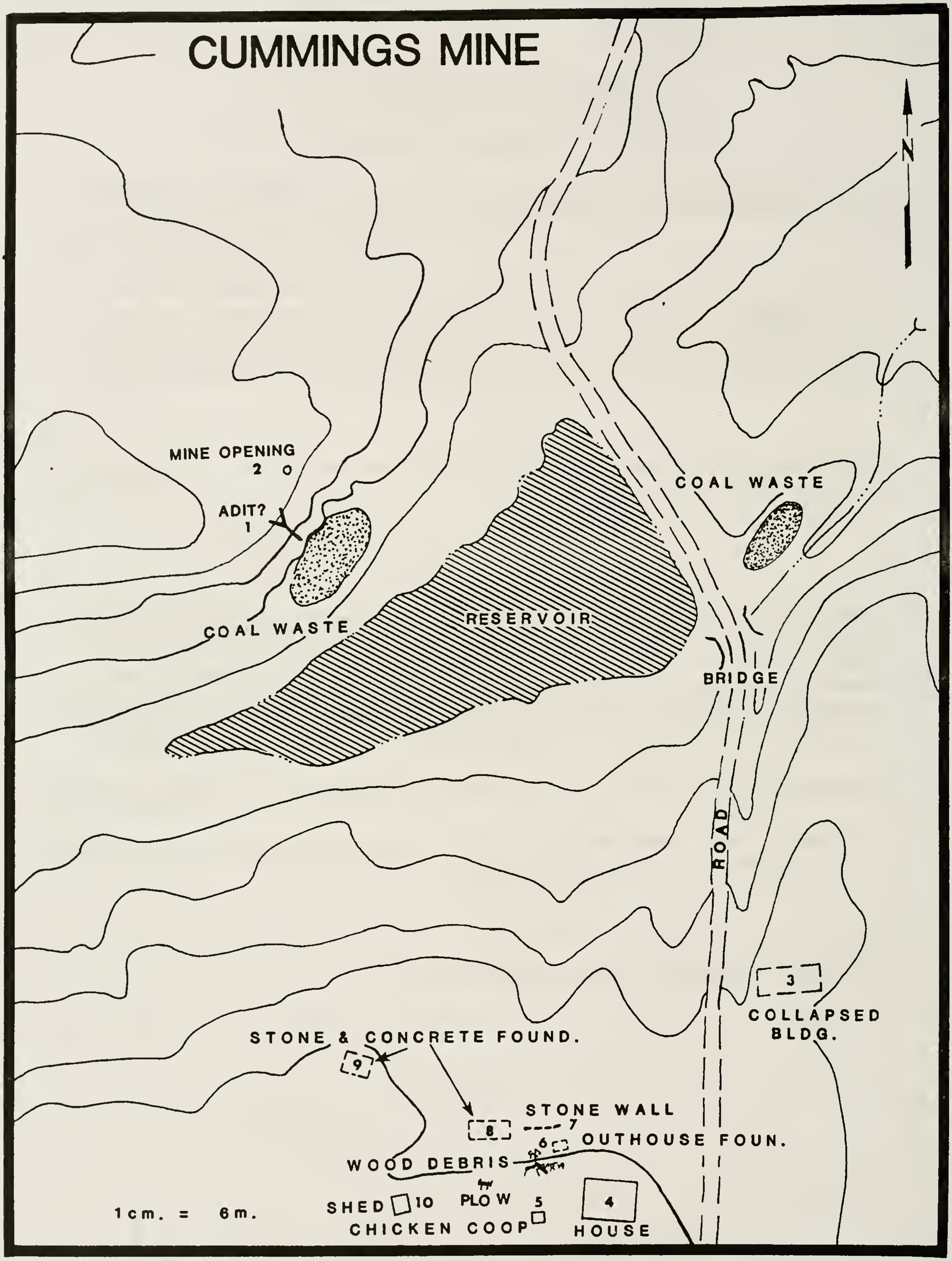
5.4 Historical information and evaluation: The first patent for the land on which the site is located was issued to Albert R. Cummings as Coal Patent #574136 on March 28, 1917. Additional land was acquired by Cummings under homestead entry patent #624785 on April 11, 1918. The coal mine was reported to predate the homestead, according to local residents, but it is unknown as to who first mined the coal seam. The mine was said to have first been established around 1900.

5.5 References

Frank Willman, area rancher
BLM Records Division, Billings, Mont.

5.6 Subsurface testing, results, methods, etc.

none



CUMMINGS MINE

MONTANA CULTURAL RESOURCE INVENTORY

Form No. 1 Locational Information

1.1 Site number:
24BL197

1.2 Site name/field designation:
Burns Mine (Mashke Fox)

1.3 County:
Blaine

1.4 Township/range:

T 32N R 18E SW 1/4 NW 1/4 NW 1/4 SW 1/4 NW 1/4 of Section 11

1.5 UTM:

Zone 12 620,800 Easting 5,378,550 Northing

1.6 Site type:
historic coal mine

1.7 Recording status & comments:
recorded, mapped and photographed

1.8 Administrative/surface ownership:

1.9 Mineral ownership:

1.10 Project name:
Department of State Lands
Abandoned Mines Reclamation
Program

1.11 General narrative description of site:

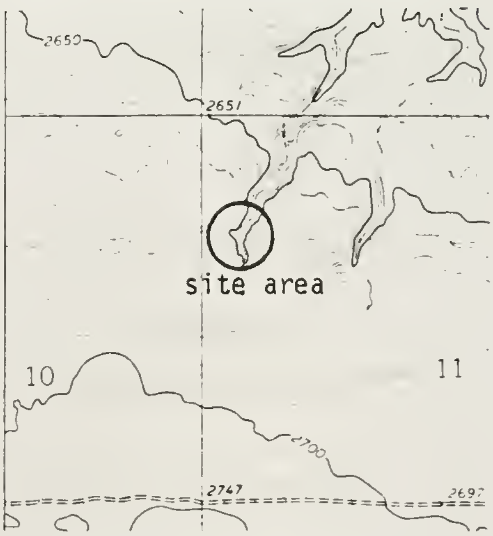
The site is located in a small NE/SW trending coulee with rolling grasslands on the east and west of the coulee. The site consists of a coal slack dump, adit opening and vent holes located on the west side of the coulee.

1.12 Map reference:
USGS Lohman SE Mont.
1964 - 1:24,000

1.13 City/town: ☒ vicinity of
Chinook, Mont.

1.14 Access to site:

Six miles west of Chinook of U.S. Hywy 2 turn south onto the county road and travel south for about 4 miles and turn east for 1 mile. Walk 1/2 mile north to site.



MONTANA CULTURAL RESOURCE INVENTORY

Form No. 2. Environmental Setting

Site Number: 24BL197

2.1 Geographic setting:

2.2 Elevation: 808 m 2650 ft.

The site is located in a small coulee which runs north/south. The adit opening was driven into the west bank of the coulee and vent holes are found above the coulee on the west side. Rolling grasslands surround the coulee to the east and west.

2.3 View/aspect:

restricted on all sides

2.4 Major drainage:

Milk River

2.5 Minor drainage(s):

Threemile Coulee

Clear Creek

2.6 Water sources:

Names Distance Ele. Change Type & seasonality

a. small reservoir located 100 m south of the site

b. large reservoir located 1/2 mile north of the site

2.7 Regional vegetation:

prairie grasses and patches of sagebrush

2.8 Local vegetation:

prairie grasses

2.9 Soils:

2.10 Surface visibility/season of survey:

good/autumn

2.11 Other environmental factors pertaining to site location:

Easy access to coal seam from the side of the coulee makes it a desirable location for a coal mine.

MONTANA CULTURAL RESOURCE INVENTORY

Form No. 3 Site Assessment and Recording Documentation

Site Number: 24BL197

3.1 Condition of site: Nothing remains of the site other than coal waste dumps and mine openings.

3.2 Site significance (NRHP):
The physical integrity of the site has been eradicated and therefore the site is not recommended as eligible for listing on the National Register of Historic Places.

☐ Attachments:

3.3 Impacts:

The Department of State Lands plans to either remove or reclaim the coal waste dump and close the open adits and vent holes

3.4 Recommendations:
The site has been recorded, mapped and photographed and no further work is recommended.

3.5 Site located by: P. Anderson	3.6 Site recorded by: P. Anderson	3.7 Revisions by:
Date: 11/1/83	Date: 11/1/83	Date:

3.8 Permit No. 83-MT/ND/SD-042

3.9 Publications concerning site:
U.S.G.S. Bulletin 381, Contributions to Economic Geology 1908, The Milk River Coal Field, Montana, Leon J. Pepperberg.

3.10 Artifact repository: none collected	3.11 Field notes/maps/photo repository: GCM Services, Butte, Mont.

3.12 Photos & accession No:

No.	Description	View
21-25	Havre Mines proof	

MONTANA CULTURAL RESOURCE INVENTORY

Form No. 5. Description of Historic Sites

Site number: 24BL197

5.1 Site dimensions, how determined:

14,700 m^2

5.2 Features:

1) coal waste dumps, 2) adit portal, 3) air shafts

5.3 Artifacts (observed, collected):

1) a winch drum, 2) auto parts, 3) wood scraps

5.4 Historical information and evaluation:

The land on which the site is located was first patented to Elzy F. Triplitt under homestead entry patent #554822 on Nov. 17, 1916. However, Leon Pepperberg in his USGS report on the Milk River Coal Field describes the Burns prospect coal mine existing at this location in 1908.

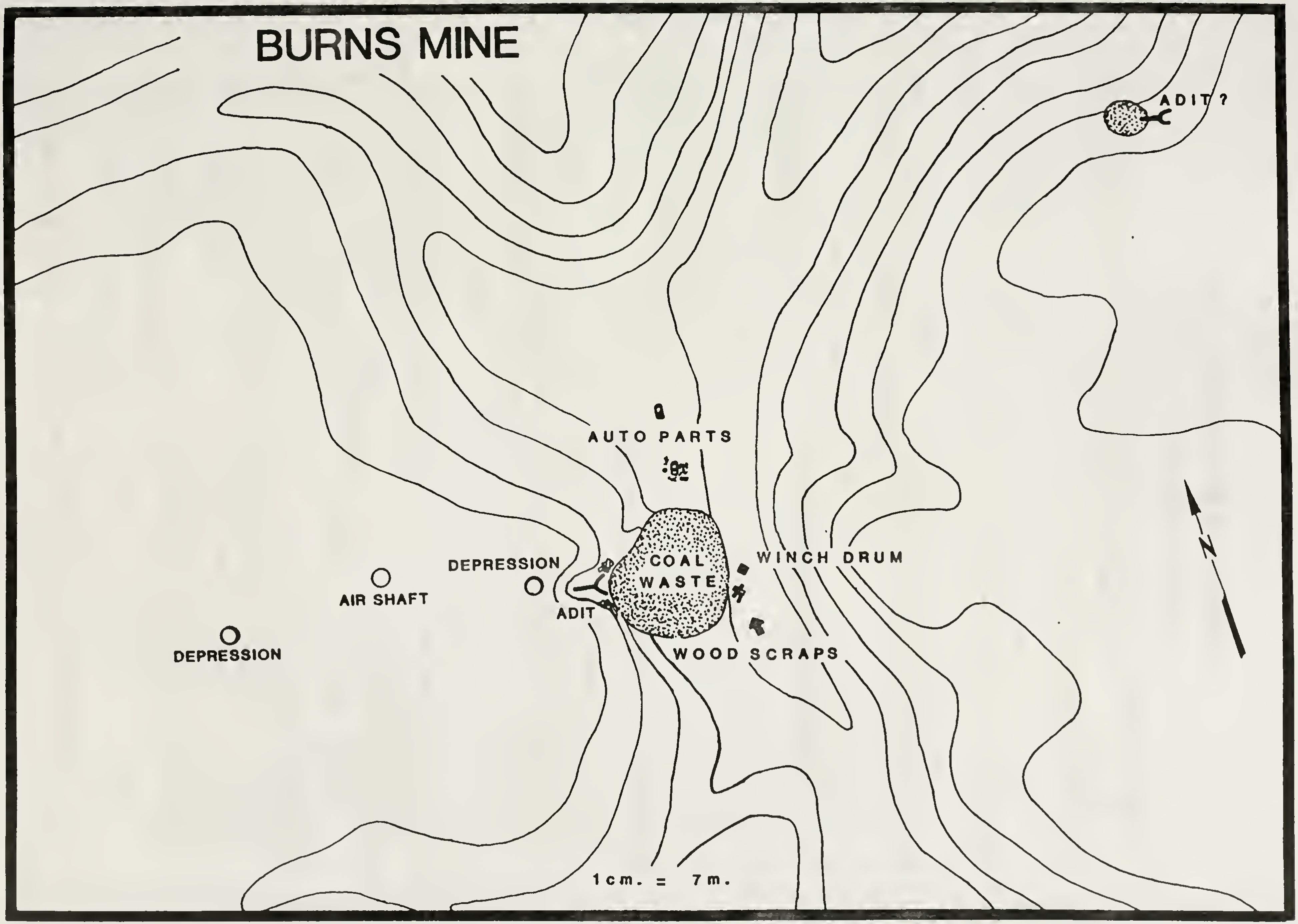
5.5 References

BLM Records Division, Billings, Montana.
The Milk River Coal Field, Montana, Leon J. Pepperberg, USGS Bulletin 381

5.6 Subsurface testing, results, methods, etc.

none

BURNS MINE



ADIT ?
AUTO PARTS
COAL
WASTE
WINCH DRUM
DEPRESSION
AIR SHAFT
ADIT
DEPRESSION
WOOD SCRAPS
N
1cm. = 7m.

MONTANA CULTURAL RESOURCE INVENTORY

Form No. 1 Locational Information

1.1 Site number:
24BL198

1.2 Site name/field designation:
Rader/Dehl/Redekop mines

1.3 County:
Blaine

1.4 Township/range:

T 31N R 19E W 1/2 of Section 5

1.5 UTM:

Zone 12 625,700 Easting 5,370,450 Northing

1.6 Site type:
historic coal mine

1.7 Recording status & comments:
recorded, mapped and photographed

1.8 Administrative/surface ownership:

1.9 Mineral ownership:

1.10 Project name:
Department of State Lands Abandoned Mines Reclamation Program

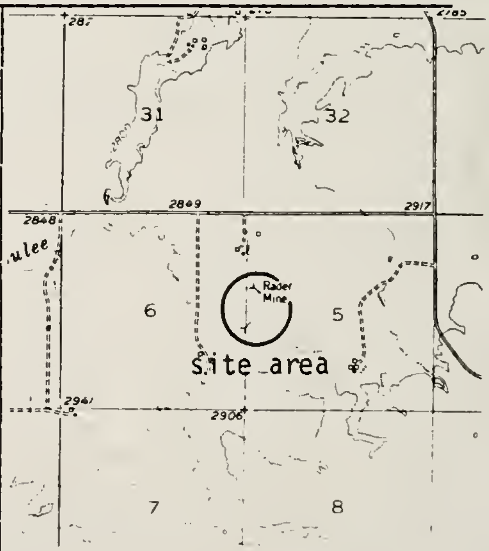
1.11 General narrative description of site:

The site is located on the lower part of a west-facing hill to the east of a tributary of Black Coulee Creek. Adits have been driven into the base of the hill and the area is covered with numerous coal waste dumps. An air shaft is near the top of the hill and drops vertically to the mine workings.

1.12 Map reference:
USGS Lloyd, Mont.
1956 - 1:62,500

1.13 City/town: ☒ vicinity of
Chinook, Mont.

1.14 Access to site:
Take the road south from Chinook for about 9 miles to the Bowes Oil Field then turn west on the road which divides T31N & T32N and travel for one mile to the ranch south of the road. The site is located 400 m south of the ranch house.



MONTANA CULTURAL RESOURCE INVENTORY

Form No. 2. Environmental Setting

Site Number: 24BL198

2.1 Geographic setting:

rolling open grasslands

2.2 Elevation: 890 m 2920 ft.

2.3 View/aspect:
open in all directions except to the east

2.4 Major drainage:
The Milk River

2.5 Minor drainage(s):
Black Coulee

2.6 Water sources:

	Names	Distance	Ele. Change	Type & seasonality
a.	tributary of Black Coulee Creek			
b.				

2.7 Regional vegetation:

prairie grasses with patches of sagebrush

2.8 Local vegetation:

prairie grasses

2.9 Soils:

2.10 Surface visibility/season of survey:
good/autumn

2.11 Other environmental factors pertaining to site location:

Exposed coal seams made it a desirable location for a coal mine.

MONTANA CULTURAL RESOURCE INVENTORY

Form No. 3 Site Assessment and Recording Documentation

Site Number: 24BL198

3.1 Condition of site: The site is in poor condition with most of the surface facilities destroyed.

3.2 Site significance (NRHP):
The physical integrity of the site has been destroyed and therefore the site is not recommended as eligible for listing on the National Register of Historic Places.

☐ Attachments:

3.3 Impacts:
The Department of State Lands plans to either remove or reclaim coal waste dumps and close the open adits and air shaft.

3.4 Recommendations:
The site has been recorded, mapped and photographed and no further work is recommended.

3.5 Site located by: P. Anderson	3.6 Site recorded by: P. Anderson	3.7 Revisions by:
Date: 11/1/83	Date: 11/1/83	Date:

3.8 Permit No. 83-MT/ND/SD-042

3.9 Publications concerning site:
U.S. Bureau of Mines Technical Paper 529, Analyses of Montana Coals, 1932.
USGS Bulletin 471-E, "The Southern Extension of the Milk River Coal Field, Chouteau County Montana, 1909".

3.10 Artifact repository: none collected	3.11 Field notes/maps/photo repository: GCM Services, Butte, Mont.

3.12 Photos & accession No:

No.	Description	View
13-20	Havre Mines proof	

MONTANA CULTURAL RESOURCE INVENTORY

Form No. 5. Description of Historic Sites

Site number: 24BL198

5.1 Site dimensions, how determined:

85,000 m2

5.2 Features:

1) adit portals, 2) coal waste dumps, 3) air shaft, 4) remains of a tipple

5.3 Artifacts (observed, collected):

1) mine cars, 2) junked autos, 3) debris from a windmill, 4) misc. debris

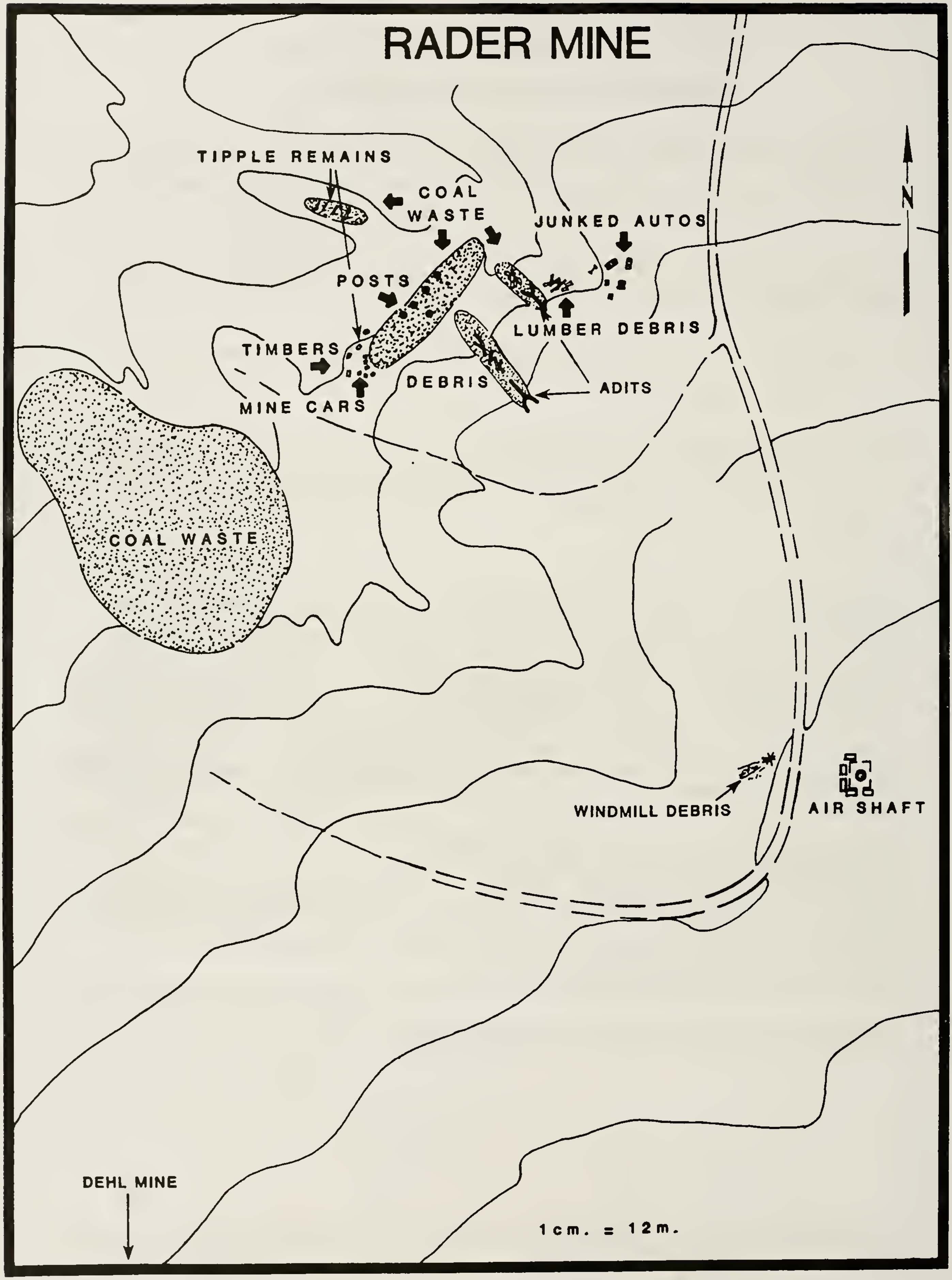
5.4 Historical information and evaluation: The land on which the site is located was first patented to Reinhold H. Rader as homestead entry #476469 on June 4, 1912 while the southern end of the site was patented to Nellie M. Dehl as homestead entry #592437 on July 17, 1917. The Rader Mine was first opened by Henry Rader around 1900 while Lee Dehl started the Dehl Mine during this same period. The two mines operated in close proximity but as separate operations until the mid-1930s when John Radekop took over the operations and combined the two mines as one unit. In spite of constant water problems and declining demands for coal, Radekop kept the mine going until the mid-1960s when it was closed for good.

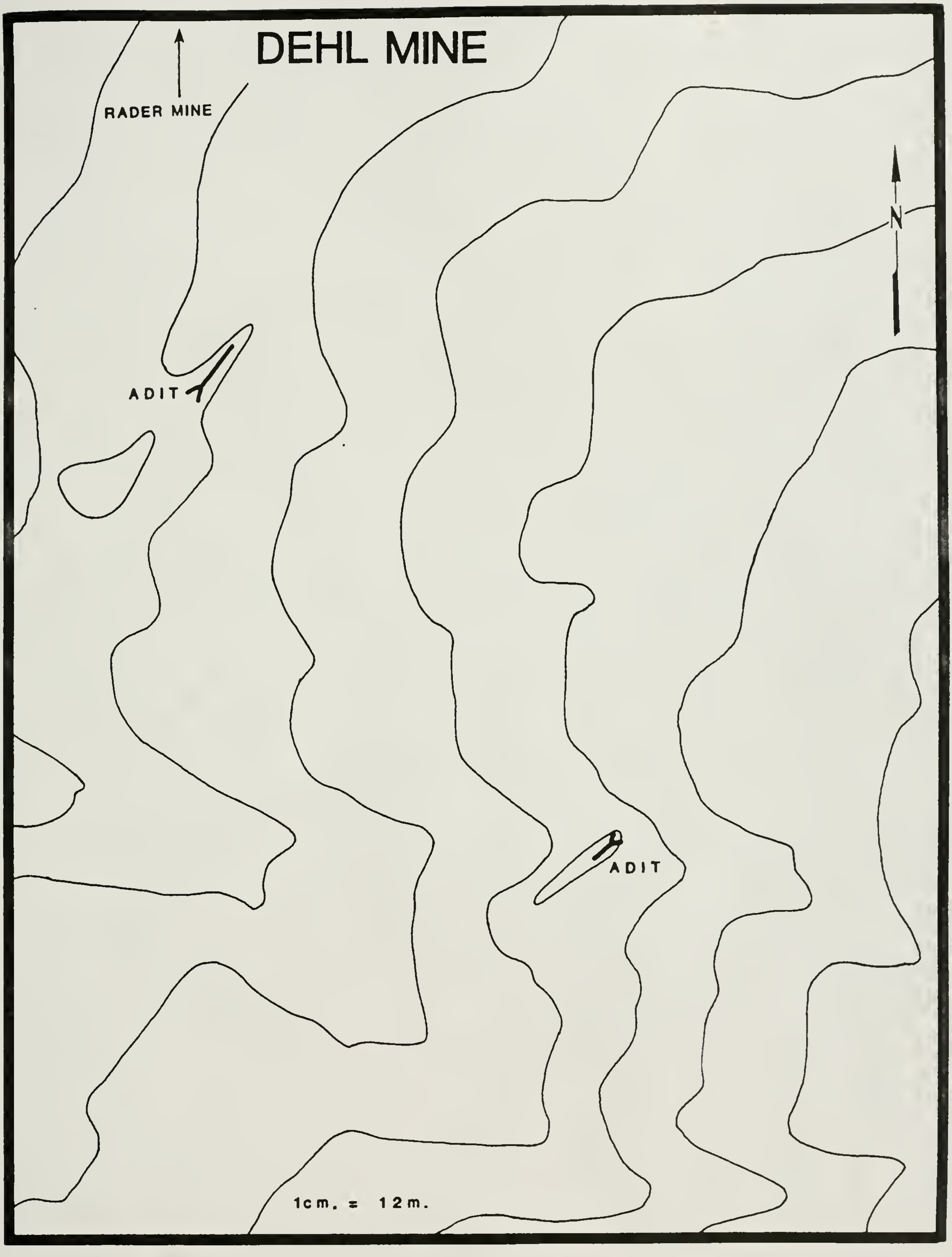
5.5 References

BLM Records Division, Billings, Montana
USGS Bulletin 471-E, "The Southern Extension of the Milk River Coal Field, Chouteau County, Montana, 1909".
Bureau of Mines, Technical Paper 529, "Analyses of Montana Coals, "C. E. Dobbin, C. W. Owings and others, 1932.
Russel Sorensen, Chinook, Montana

5.6 Subsurface testing, results, methods, etc.

none


RADER MINE
TIPPLE REMAINS
COAL WASTE
JUNKED AUTOS
POSTS
TIMBERS
MINE CARS
DEBRIS
LUMBER DEBRIS
ADITS
N
COAL WASTE
WINDMILL DEBRIS
AIR SHAFT
DEHL MINE
1 cm. = 12 m.


DEHL MINE
RADER MINE
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ADIT
1cm. = 12m.